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ABSTRACT

A summary of the findings and recommendations of the Citizens' Advisory Committee on Environmental Quality is presented in this report. Specific environmental problems were studied in depth and are reported under the following topics: (1) population and land use; (2) recreation and natural beauty; (3) resource recovery, recycling, and reuse; (4) technology and manpower; and (5) critical issues. Recommendations highlight the need for improvement in land use planning by local and regional bodies, a change in the major thrust of the Federal transportation program from highways to mass transit, a reordering of priorities for Federal Aid to recreation, new approaches to solid waste management, application of cost/benefit analyses to overall and individual environmental programs and projects, and strengthening Federal grant aid for environmental education. Appended material includes a background of the committee together with a description of its activities and publications to date. (BL)

CITIZENS' ADVISORY COMMITTEE ON ENVIRONMENTAL QUALITY

ANNUAL REPORT TO THE PRESIDENT AND TO THE COUNCIL ON ENVIRONMENTAL QUALITY

FOR THE YEAR ENDING MAY 1972

CITIZENS' ADVISORY COMMITTEE ON ENVIRONMENTAL QUALITY

1700 PENNSYLVANIA AVENUE, N.W.
WASHINGTON, D.C. 20006
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June 1, 1972

Dear Mr. President and Members of the Council:

I am pleased to submit this Report of the Citizens' Advisory Committee on Environmental Quality.

Environmental action is on the upswing. The Federal Government has launched major programs; State and local action is on the rise; perhaps most encouraging, citizen support has been strong and is continuing.

But the toughest challenges lie ahead -- and they are as much social as technical. Here, in brief, are some of the major initiatives we are recommending:

* We urge Federal-State action to improve land use planning by local and regional bodies and to stiffen controls.

* To strengthen the Federal program for new towns, we recommend that priority be given to sites within or close to the inner cities; that carrot-and-stick incentives be evolved for more innovative design and development approaches.

* We suggest that the Federal Government help States set up public land development corporations, such as New York State's Urban Development Corporation.

* We think that the major thrust of the Federal transportation program should be switched from highways to mass transit. We cite a number of steps that can sharply curtail the pollution of our cities by private automobiles.

* We call for a major reordering of priorities for Federal aid to recreation. There should be more money; it should be more effectively focused on the urban areas that need it most, and it should be available for operation, maintenance, and most especially for training of program personnel -- less for things, in sum, and more for people.

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* We believe there are unique, low-cost/high-benefit recreation opportunities, especially in the areas of obsolescent facilities and underutilized land, and we urge action to seize these opportunities.

* We think new approaches to solid waste management are urgently needed. Federal aid should be expanded; it should include grant support to help State efforts, and it should include some real money for the demonstration program already authorized for new resource recovery techniques. We also urge a number of tax changes that can greatly foster resource recycling and reuse.

* We feel that private industry and the Federal Government should step up efforts to promote the development of more efficient and relatively pollution-free energy processes.

* We recommend that cost/benefit analyses be applied to overall environmental programs as well as to individual projects and believe this would be of great help in getting a better grasp of relative priorities.

* Federal grant aid for environmental education should be strengthened -- by increased emphasis on community projects, by increased aid funds, and by more coordination of the various Federal efforts.

Each member of the Committee does not necessarily endorse each detail, but there is a broad consensus on the basic recommendations. In the year ahead, we hope to develop further recommendations. To that end, our subcommittees are exploring a number of special tasks. We are particularly concerned with the urban environment, and we are setting up a special task force to explore the major problems and ways of meeting them.

The Committee stands ready to help translate our recommendations into action.

Sincerely,

Laurance S. Rockefeller
Chairman

The Honorable Richard M. Nixon
President of the United States
The White House
Washington, D. C. 20500

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The conservation idea covers a wider range than the field of natural resources alone. Conservation means the greatest good to the greatest number for the longest time. One of its great contributions is just this, that it has added to the worn and well-known phrase, "the greatest good to the greatest number," the additional words "for the longest time," thus recognizing that this nation of ours must be made to endure as the best possible home for all its people.

Gifford Pinchot

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REPORT
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THE STATE OF THE ENVIRONMENT

There is much to be encouraged about. Over the last few years, the Federal Government has taken some important steps. In early 1970 tne Council on Environmental Quality (CEQ) was established, and later in the year the Environmental Protection Agency (EPA). Both of these agencies have already accomplished much and there has been a substantial increase in the amount of Federal appropriations for environmental programs. The National Environmental Policy Act (NEPA) has placed environmental considerations on a par with other factors in the formulation and administration of Federal programs. Concern for the environment has been incorporated into an enormous range of decisions—decisions by individuals, by corporations, by legislatures, and by courts.

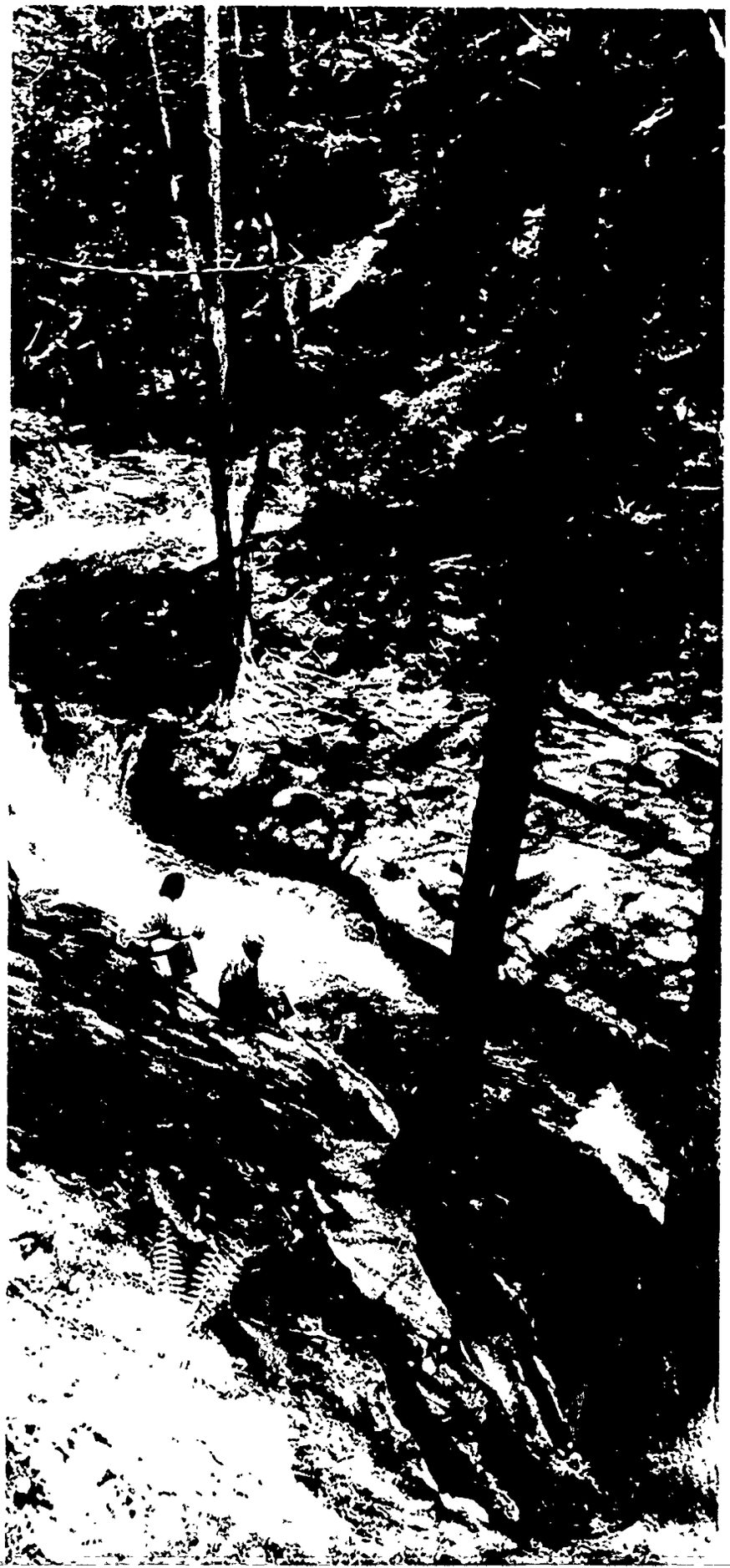
All 50 States have taken some action to protect environmental quality, and a number have done so aggressively. Local governments too have stepped up their efforts. Industry has significantly expanded its pollution abatement programs. And most importantly, citizens are becoming more involved, as individuals and members of a growing number of organizations.

But optimism must be tempered. Welcome as the new public awareness may be, the fact is that the country is just beginning to grapple with its environmental problems. The toughest decisions still lie ahead.

Even as we develop the means of solving one set of problems, the more we see that there are others, then others, then others. As John Muir wrote many decades ago, "When we try to pick out anything by itself, we find it hitched to everything else in the universe." Such complexity will require that serious economical, social, and political questions be answered.

The Committee believes that progress toward environmental quality can be measured against three goals. The first is to set straight the mistakes of the past—cleaning up our air and water, recovery and recycling of wastes, controlling pesticides and toxic substances. This is what the term "environment" means to most people, and most efforts during the last three years have been along these lines. Generally, we know what needs to be done. We have much of the necessary technology and are working to develop that which we do not yet have—such as pollution-free means of producing electrical energy. While there is not complete agreement on all points, there does appear to be a societal commitment—expressed in legislation, corporate statements of policy, and individual initiative—to take the action required to meet this goal. The major need in this category is to assure that the necessary funds, public and private, are invested and that the requisite trained manpower is available to make the action programs effective.

But the first, or "cleanup" goal, is only the beginning. The second is better land use. For decades this country has been squandering its land and water resources. We have been developing land which should not be developed—flood plains and wetlands, ravines and streambanks—and on land which should be developed, we have been using five acres to do the work of one. Plainly, we can no longer afford to have the key decisions shaped largely by



There is little question about the dedication of Americans to programs which protect and enhance their environment—but hard questions remain. We need to move away from growth for growth's sake. Economic expansion and industrial development need no longer come at the sacrifice of clean water and air, open space and wildlife. Our actions can be compatible with our natural resources, and we can live in harmony with our environment if we make and pursue a commitment to do so.

Governor Tom McCall
of Oregon

To waste, to destroy, our natural resources, to skin and exhaust the land instead of using it so as to increase its usefulness, will result in undermining in the days of our children the very prosperity which we ought by right to hand down to them amplified and developed

Theodore Roosevelt

market forces. Encouragingly, a number of States, as well as the Administration and the Congress, are moving toward some form of land use control.

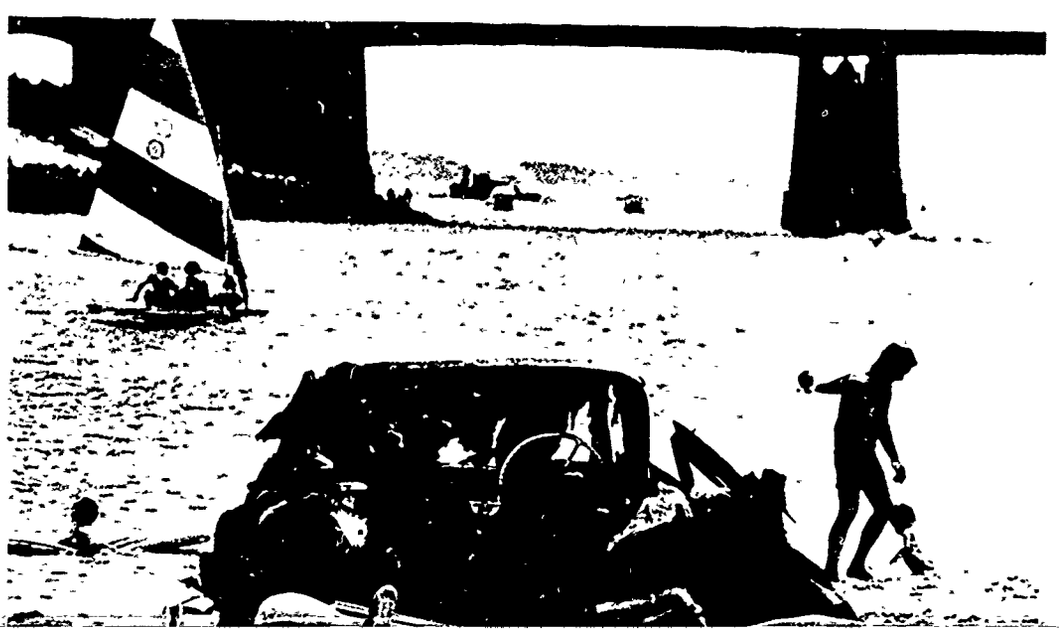
The third goal is social. Clearly, environmental quality encompasses adequate housing, education, jobs, recreation, cultural opportunities, and transportation. Each of these is essential to the quality of life. What it will be like many years ahead will depend very much on decisions we make during the next two or three years.

Any look ahead leads directly to the fundamental question of growth. In its recent report to the President and the Congress, the Commission on Population Growth and the American Future has identified one important aspect of this question:

> Consideration of the population issue raises profound questions of what people want, what they need—indeed, what they are for. What does this nation stand for and where is it going? At some point in the future, the finite earth will not satisfactorily accommodate more human beings—nor will the United States. How is a judgment to be made about when that point will be reached? Our answer is that now is the time to confront the question: "Why more people?" The answer must be given, we believe, in qualitative not quantitative terms.

Economic growth poses difficult questions also. Several well-publicized studies maintain that economic growth must be sharply curtailed if the world is to avoid environmental disaster. These studies have been countered by the equally strong argument that vigorous economic growth is essential to the well-being and financial support of civilized society.

Finally, there is the question of our country's place in the world environment. Resolution of this issue will involve delicate adjustments in traditional social, economic, and cultural values, which must have the understanding and support of the American people. The United Nations Conference on the Human Environment at Stockholm in June is a beginning, but the establishment of effective machinery and of requisite global support will require much time and patience.



We must realize that no living organism, plant or animal, ever had any appreciable deleterious effect on the biosphere until this critter we call man came along.

Arthur Godfrey

POPULATION AND LAND USE

The need for a population policy

The Commission on Population Growth and the American Future has come up with an authoritative, thoroughly documented report, *Population and the American Future*.

Its conclusion is that this Nation must adopt a deliberate population policy now, and that such a policy should be one of seeking stabilization of our population. The Commission's consideration of population size was in terms of the quality of life, and it viewed stabilization not as an end in itself, but as the *sine qua non* for solution of other pressing problems—social, economic, and environmental.

Our Committee agrees that a policy of population stabilization would best serve the American people and should be adopted. It also agrees with the Commission's findings that a prompt reduction in our population growth could produce considerable benefits for the environment.

The Commission's report contains a number of specific recommendations relating to environmental quality. Certain of them, we believe, are particularly important:

> In order to provide a framework for regional, state, and local planning and development, the federal government should develop a set of national population distribution guidelines.
>
> In order to ease the problems created by population movement, we should develop programs for human resource development, counseling and assistance on worker relocation, and a growth center strategy to promote job opportunities in depressed areas.
>
> In order to facilitate the accommodation of population movements, we need comprehensive planning on a metropolitan and regional scale which could be facilitated through greater public control over land use and the establishment of state and regional planning agencies and development corporations.
>
> In order to increase freedom in choice of residential location, we should extend governmental provision of suburban housing for low- and moderate-income families and should take effective steps to promote genuinely free choice of housing within metropolitan areas on the part of racial and ethnic minorities.
>
> In order to strengthen the basic statistics and research upon which all sound demographic, social, and economic policy must ultimately depend, the federal government should move promptly and boldly to implement specific improvements in these programs.

On several issues the Commission's report is controversial. Because it poses the issues so forcibly, however, the report is an ideal instrument for engendering a national debate on the population problem. We strongly urge that the report, now available in paperback edition, be widely distributed throughout the Nation. A very readable summary called *Themes and Highlights* published by the Government Printing Office is commended to all citizens.

Land use planning and control

Of all the factors that determine the quality of our environment, the most fundamental is the use we make of our land. We so stated last year and believe it truer than ever. We are encouraged that a growing number of public officials have been coming to the same conclusion—and doing something about it.

In a report prepared for the Council on Environmental Quality, Fred Bosselman and David Callies summarize the movement:

> This country is in the midst of a revolution in the way we regulate the use of our land. It is a peaceful revolution, conducted entirely within the law. It is a quiet revolution, and its supporters include both conservatives and liberals. It is a disorganized revolution, with no central cadre of leaders, but it is a revolution nonetheless.
>
> The *ancien regime* being overthrown is that feudal system under which the entire pattern of land development has been controlled by thousands of individual local governments, each seeking to maximize its tax base and minimize its social problems, and caring less what happens to all the others.
>
> The tools of the revolution are new laws taking a wide variety of forms but each sharing a common theme—the need to provide some degree of state or regional participation in the major decisions that affect the use of our increasingly limited supply of land.

The report is a valuable analysis of innovative land use laws in several States. For Statewide control, there is Hawaii's Land Use Law, Vermont's Environmental Control Law, and Maine's Site Location Law. For regional mechanisms, there are the laws authorizing the San Francisco Bay Conservation and Development Commission, the Wisconsin Shoreland Protection Program, and the Twin Cities Metropolitan Council in Minnesota. Unique as each may be individually, they have widespread applicability, and similar proposals are being put in the hoppers of many State legislatures. Most recently, Florida has enacted comprehensive land use legislation.

To spur Federal action, the President has reaffirmed his support for a National Land Use Policy Act. In his 1972 Environmental Message to the Congress, he said, "We must create the administrative and regulatory mechanisms necessary to assure wise land use and to stop haphazard, wasteful, or environmentally damaging development. Some States are moving ahead on their own to develop stronger land-use institutions and controls. Federal programs can and should reinforce this encouraging trend." The President proposed amendments to the pending legislation which would require States to control the siting of major transportation facilities and impose sanctions on any State that does not establish an adequate land use program. We strongly support these amendments.

> ***Local governments should continue to have the responsibility for purely local land use decisions, such as the location of schools and service facilities. But many decisions affect a far wider area. Local governments are not in a good position to judge the larger issues. The local tax base and local interests are what preoccupy them, and officials who would put the concerns of other communities first do not get re-elected.***

What is needed are regional bodies with authority to plan and control those facets of land use that transcend local boundaries, such as transportation, pollution abatement, low-cost housing, and open space.

The States should encourage the formation of such regional bodies. They should also assume responsibility themselves for land use control. They should identify critical resource areas and types of land use that have Statewide or regional significance. If local governments do an effective job of protecting these areas, fine and good. If they do not, however, the State should step in and see that the job is done. This is the principle that has been followed by several States for the protection of wetlands. It is a good one, and it should now be applied to a broad range of land uses.

State and local coordination will have to be hammered out. "As the States move toward more balanced systems of land use regulation that are not weighted exclusively toward the prevention of development," the Bosselman and Callies Report notes, "it will be increasingly necessary to merge both State and local regulations into a single system with specific roles for both State and local government in order to reduce the cost to the consumer and taxpayer of duplicate regulatory mechanisms."

Although the Federal Government should not—and as a practical matter could not—become directly involved in land use controls other than on its own lands, it does have major responsibilities. It should set overall policies on spheres of activity that are national in character, such as in the abatement of water and air pollution. Similarly, it should provide national guidelines and criteria to help States and local governments develop sound programs of their own and money to help them do it.

Title VII of the Housing and Urban Development Act of 1970 provides for the development at the Federal level of a national urban growth policy. The first biennial report required by that Act, submitted to the Congress by the President in February, finds the term "urban growth policy" too narrow and substitutes "national growth policy." The Commission on Population Growth and the American Future suggests that the policy "should apply to the full range of population distribution issues relating to rural and urban people and areas, and conditions of population decline and stabilization, as well as growth. With this in mind, a more appropriate designation would be national population distribution guidelines."

Each year the Federal Government spends many billions of dollars on programs that profoundly affect land use in all parts of the Nation—programs for highways and airports, housing, open space, farm subsidies, and water resource projects. Not enough has been done to coordinate these various programs. In our 1971 Report, we recommended that Federal land use policy could be coordinated most effectively by a unit in the Executive Office of the President. Interestingly, the Commission on Population Growth and the American Future has recommended the creation of an Office of Population Growth and Distribution in the Executive Office. While land use and population are not synonymous, they are very closely related. We suggest, therefore, that consideration be given to combining the two concepts in a single office.

New communities

With passage of Title VII of the Housing and Urban Development Act of 1970, the concept of building new communities has been given a powerful assist. More than 100 serious inquiries from prospective new community developers have been received, and the first 10 Federally assisted new communities have been announced. The question is no longer whether there will be new communities, but rather the extent to which new communities can and will contribute to public policy objectives.

Certain hoped-for results of the new community concept are apparent:

- Because of the large scale and long construction period, developers must guide their decision-making through serious social, environmental, and physical planning, as well as the more commonplace economic and financial analysis. A careful balance of housing, recreation, and job opportunities will be required to preserve and enhance the natural and settled environments and contribute to the quality of life of their residents.
- Federal regulations for new communities call for significant amounts of low and moderate income housing and for job and business opportunities for persons of all races.
- The scale of development facilitates the organization of the site and the staging of development. This should contribute to efficient production of residential, commercial, industrial, and other building sites; reduction of transportation and utility costs; and utilization of improved technology in land development and the construction of buildings.

But there are potentials that are not being realized:

- New communities are not now significantly affecting population distribution. Most new communities are planned at the urban fringe, where growth is likely to occur anyway. While new communities provide for a more orderly pattern of growth where growth is most likely to occur, they are not now redirecting growth, to any significant extent, into revitalizing central cities, small towns, and rural areas. While the outlook for central cities has improved, present governmental incentives do not now appear sufficient to encourage economically viable development in small town and rural areas.
- New communities are not contributing as much as they could to the strengthening of State and local governments. Federally-assisted new communities must work closely with governmental officials at all levels, and new community plans must be consistent with relevant areawide plans for the area in which they are to be located. However, under the present program, government bodies do not initiate. They respond. The plans are made by private developers, and private developers typically propose development at those locations where they have acquired property, usually for reasons unrelated to growth policy considerations.

- Much more innovation is possible. There is little in the way of existing physical plant or established institutional practices to restrain imaginative thinking. New community residents may be more willing to accept innovations, and the Federal loan guarantees can reduce financing costs for innovations associated with land development. Nevertheless, the high initial costs of technology evaluation and planning, the perceived risks of delays, local government resistance, and the fragmentation of Federal assistance have all served to seriously reduce the amount of innovation likely to occur in the presently planned new communities.

To strengthen the new communities program, the Committee makes the following recommendations:

- *Priority in Federal assistance should be given to new communities within or adjacent to the inner cities. An inventory of Federally-owned land should be completed and made publicly available, with particular attention to identifying sites suitable for new-towns-in-town.*
- *Innovations in new communities should be stimulated. One way would be more effective coordination of interagency research and development activities.*
- *The capacity of State and local governments to participate in the Federal new communities program should be strengthened through the funding of interest differential grants authorized by the Congress under Title VII.*
- *The Federal Government should assist in the establishment of State land development agencies, such as New York's Urban Development Corporation. This could be done through grants to States for payment of administrative costs during an initial period, which would require amendment of the present law.*

The potentials of new "satellite towns" which can be created in cooperation with existing "host cities" should be fully explored. These can be used to develop innovations in management, government, and city planning.

"Satellite towns" might be created by State-directed Public Corporations, utilizing federally guaranteed loans for land acquisition, but using free enterprise (on a public utility type of limited-profit basis) for development. Models are being developed for the Committee to explore financial and social implication.

Over the past two years, the Committee has been engaged in a study of the potential of such "satellite towns," a project which has also generated ancillary studies related to population distribution and the problems of our urban environment. A great deal of information based upon experience and research in the United States and abroad has been gathered and is being compiled into a manual for distribution later this year to people concerned with new towns and the improvement of existing cities. It will encompass consideration of new communities, economic growth policies, and various means of deliberate population distribution. It will also include recommendations concerning possible new governing procedures, institutional arrange-

ments, physical facilities, technological advances, and general environmental improvements which could enhance the quality of urban living.

A balanced transportation system

Transportation is critical to land use planning. To achieve a transportation system more in line with the needs of all our people—urban and rural, inner city and suburban—there must be a clear shift in government priorities and financing. There must also be a change in transportation habits by the general public. Affection for the automobile has contributed greatly to our transportation problems, particularly in crowded urban areas.

And it is in these areas that the key test will take place. For the last two decades, as we noted in our Report last year, the emphasis has been primarily on highway building, with cities sometimes being given highways they did not want or need, instead of enough money for the public transit that they did. This imbalance has now reached a critical phase, a fact well demonstrated by the sheer number of urban highway controversies that dot the Nation.

We believe that much more Federal support should be given to urban mass public transportation systems, rather than concentrated on highway building.

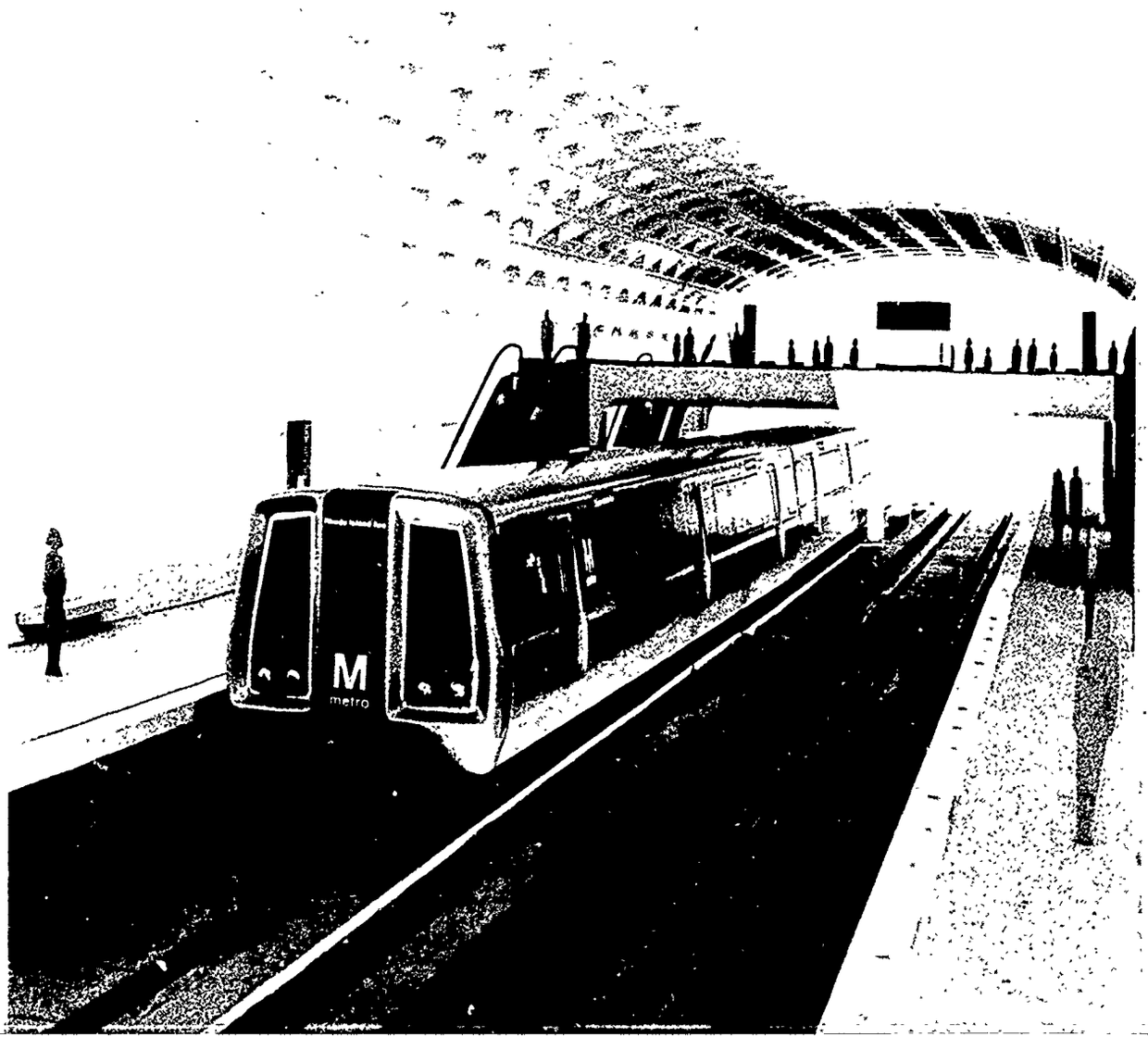
This funding would include use of the Highway Trust Fund and other sources of financing, as recently proposed by the Secretary of Transportation —and in the same magnitude as the interstate highway system has enjoyed in the past. While we agree with the use of the Highway Trust Fund for rapid bus transit, we feel that major emphasis should be on broadening the Fund's useage to a better mix of various means of urban transit. Such expansion would necessarily include surface rail, subway and, eventually, some of the novel mass transit systems under development.

Even if there were no other reason, clean air would be justification enough for a shift to mass transit. Some States are finding that they simply cannot meet Clean Air Act of 1970 standards without changing the basic reliance on the automobile as the prime factor in our transportation system. The Federal Government can stimulate this shift by using its most powerful lever: the Highway Trust Fund. If a guaranteed substantial percent of this $5.5 billion a year Fund were devoted to mass transit and if the individual States and cities had some voice in deciding how their share is spent, substantial progress could be made. The Administration has recently proposed legislation to this end. We urge its enactment by the Congress.

Action taken at the State and local levels may well prove equally important. In Massachusetts, for instance, through efforts of aroused citizens' groups and with the full support of the Governor and the Mayor of Boston, a moritorium has been placed on all interstate highway construction inside the circumferential beltway, pending a complete restudy of highway needs in the greater metropolitan area there. In Oregon, legislation was recently passed allocating State gasoline and highway user revenues to bikeways and other

"I think it is absolutely ridiculous for 100,000 Americans living in the same urban center to try to go to the same place for the same purpose at the same time, as each drives a ton and a half of metal with him.

Walter Reuther



means of transit. In Arlington, Virginia, citizen efforts have halted construction of an eight-lane expressway—in part through parkland—and a connecting bridge across the Potomac. A consequence has been a series of Federal court decisions, reaching all the way to the Supreme Court, which may ultimately lead to a thorough reexamination of the interstate highway system serving the Washington, D. C. area.

New kinds of mass transit systems should be sought. The key challenge is, however, to make existing systems more efficient and attractive to the public. This will require Federal subsidies to upgrade and maintain such systems. Legislation is pending before the Congress that would provide Federal funds for operating expenses of urban mass transit systems.

More Federal attention should be given to the taming of the urban automobile. Eventually, this might encompass: development of a pollution-free and fuel-efficient vehicle; restrictions on the size of automobiles and outright banning their use in particular areas of cities and at certain times of the day; restructuring of traffic patterns and provision of more adequate fringe parking facilities; and incentives and sanctions designed to cut the volume of automobiles, such as staggered work hours and work days and various disincentive economic measures to spur car pooling by commuters. Ultimately, Americans must understand that while the automobile is frequently equated with a sense of power, affluence, and individual rights, it also represents an inefficient and unwise use of natural and financial resources and is especially damaging to our urban land and air.

Not only in metropolitan areas, but throughout the Nation, our transportation network is in need of overhaul. The decline of high-speed, inter-city passenger rail service in the country must be reversed.

Work on the rural portion of the interstate highway system should be finished, and the already completed segments of that system expanded and modernized. We feel also that the Highway Trust Fund could well be used to improve older secondary roads, many of which, after decades of neglect, simply cannot meet the loads of increasing automobile traffic.

We think that consideration should be given to redressing the inequities of government regulation of freight transportation that result from complex regulatory controls, discriminating freight rates, and public subsidies. The aim should be a more efficient mix of hauling freight on our roads, rails, waters, and in the air. This could bring about major savings in materials and energy that would be reflected in reduction of environmental damage and the costs of producing goods and services.

Airports

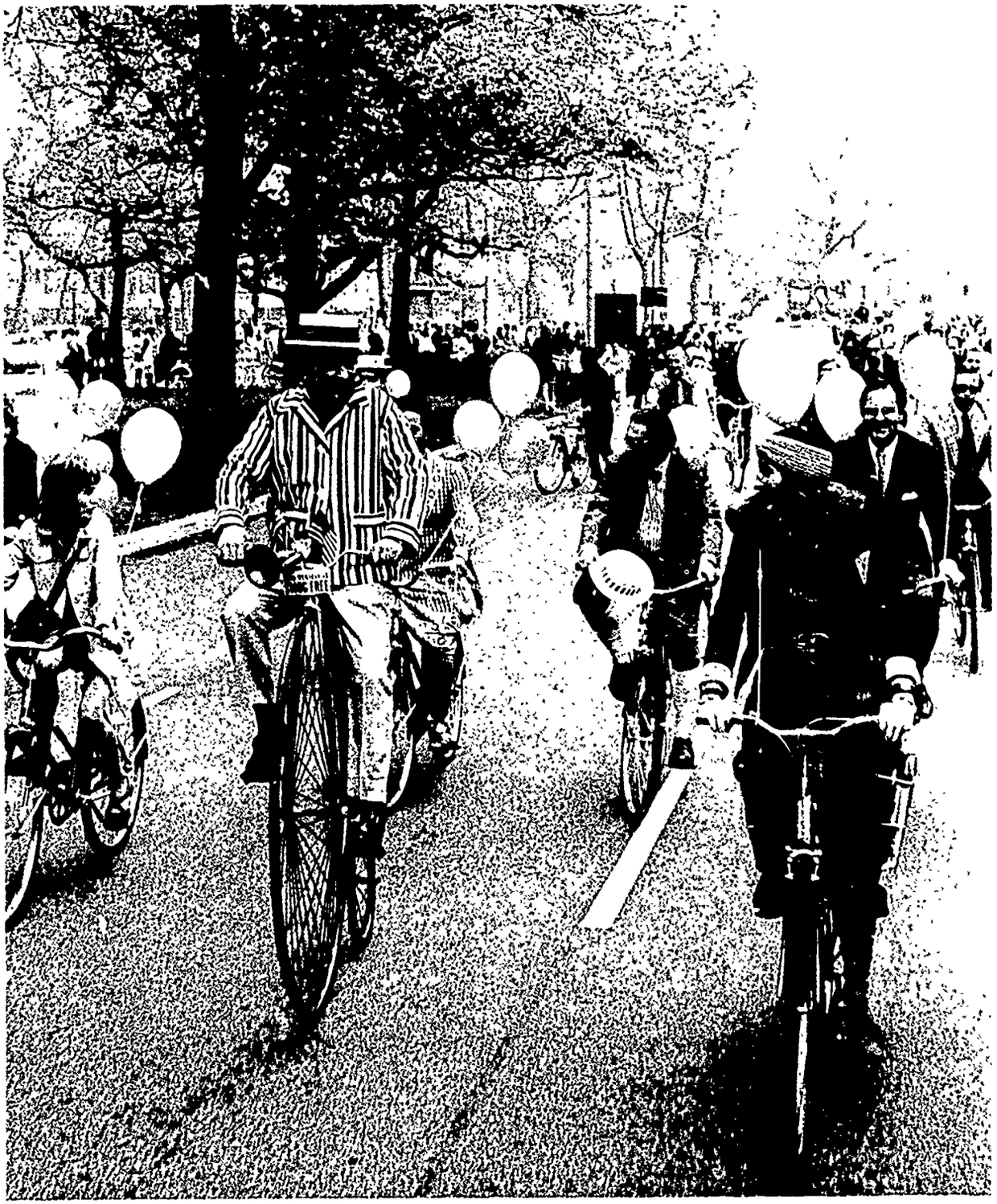
The Nation's urban airports pose an increasing number of problems. Noise, air pollution, and safety are the most widely recognized. Less well known, but fast gaining in importance, are the very human problems associated with community disruptions caused by the expansion of existing airports and the build-

ing of newer ones. This has placed particularly heavy strains on our space-poor cities, and it has raised serious issues when the sites are near wetlands and bodies of water. Further, new airport complexes frequently spawn rapid commercial development around them and in the absence of comprehensive planning, this frequently preempts wise land use in the area.

These problems are dramatically acute in many of our metropolitan areas. Any lag in coping with them can only result in critical disruptions to air transportation services.

Such disruptions are often the result of rising pressure from an environmentally conscious public. Citizen efforts to prevent new airports in particular, have been gaining notable success, in securing remedial action—and sometimes, as with unwanted highways, inaction. The airline industry, we are happy to note, is now beginning to take steps to stimulate dialogue with the public. The Air Transport Association, for instance, has recently set up programs to expose airlines people to the views of environmental groups.

Better technology and planning are the crux, however, and the Federal Government and private industry must redouble their efforts toward this end. New equipment for noise and air pollution abatement offers promise. So too do public and private efforts to develop experimental short-takeoff-and-landing (STOL) aircraft, with their virtues of speed, safety, adequate passenger load capacity, minimal air and noise problems, lessened need for runway space and hence airport size, and profitability. This one development alone could stimulate the technology for building a whole new generation of passenger planes to service urban centers of the late 1970's or early 1980's. Better high-speed, mass transportation service to and from airports would offer great efficiency as well as convenience for people. More immediately, cutbacks in the number of unnecessary flights and more efficient flight scheduling would not only yield economies, but assure greater safety and perhaps decrease the need for airport expansion. Improving high-speed surface transportation for short-haul service (under 600 miles) will further reduce the pressure for unlimited expansion of air service.



Land use really is the starting point for most of man's polluting activities. Land dedicated to park or open space makes a significant contribution to environmental quality in two ways. It is enjoyable both in itself and also for the relief it provides from other surrounding and polluting land uses. It may be that the greatest contribution cities could make to improve their quality of life is the acquisition of as many desirable parcels as possible, as early as possible, before land prices soar out of range or compel development and permanent loss of open space. The time is now . . . before it is too late.

Mayor Pete Wilson of San Diego

RECREATION AND NATURAL BEAUTY

Exactly a decade has passed since the Outdoor Recreation Resources Review Commission (ORRRC) submitted its report OUTDOOR RECREATION FOR AMERICA to the President and the Congress. At that time the Federal Government's contribution to outdoor recreation was almost entirely a byproduct of programs designed to achieve other objectives. The Corps of Engineers, for example, provided water recreation on reservoirs built for flood control and power generation, and the Forest Service afforded camping and hiking opportunities on lands originally set aside for timber production and watershed protection. Even the National Park Service was administered primarily to preserve outstanding resources rather than to furnish recreation opportunities.

We have come a long way since then. The Congress, responding to numerous ORRRC recommendations, established the provision of outdoor recreation as a Federal function, created a number of new recreation programs, and appropriated very substantial funds in support of outdoor recreation objectives. Numerous Federal agencies now consider outdoor recreation as integral and important facets of their programs. The States have also expanded and improved their outdoor recreation programs. The cities, facing the toughest problems, have made progress in some areas but lost headway in others.

There is much more to be done. With each passing year, the needs become more urgent as our population grows, and the percentage of Americans living in metropolitan areas—particularly the larger ones—continue to increase. Here are some of the challenges to be addressed.

Low-cost/high-benefit recreation opportunities

The Administration has been making additional recreational opportunities available to Americans, especially to those living in or near urban centers. At a stepped-up rate, they have been transferring surplus Federal land to State and local governments for public recreation opportunities. But there are still substantial, unrealized recreational possibilities on land located within or adjacent to metropolitan areas—land now frequently held by the military. Use of these lands in public recreation and park programs would be most productive.

The Administration has proposed bills to create the Gateway National Recreation Area in New York-New Jersey and the Golden Gate National Recreation Area in California. We urge their enactment and hope that proposals will be forthcoming for other urban national recreation areas as well.

There are several unique, low-cost/high-benefit recreation opportunities to be seized. For one, there is great recreation potential in obsolescent facilities or underused land—vintage barge canals in the East, for example; land alongside irrigation, flood control, and drainage canals in the West; and abandoned railroad rights-of-way throughout the Nation—for use as hiking and horseback

trails, bicycle paths, and other recreation purposes. Former airport lands and facilities, often adjacent to or within metropolitan areas, abandoned cemeteries and highway interchanges could also be used.

Acquisition and development of such resources could provide inexpensive, high-yield recreation opportunities accessible to millions of urban Americans.

Provision for additional recreational uses of Federal lands is another low-cost recreation possibility. The recent leasing of a magnificent stretch of ocean beach at the northern end of the Camp Pendleton Marine Base by the Government Services Administration (GSA) to the State of California constitutes a good example of such Federal-State cooperation. Similar ventures elsewhere could prove rewarding.

Much more can be done to enhance recreation opportunities for citizens through a mixture of public and private effort. Both, for instance, could play a significant role in the development and maintenance of certain underused recreation assets in localities everywhere. Expanding the scope of some multipurpose facilities to include community recreation programming is one possibility—opening up often-darkened public school facilities, church properties, meeting halls, and theaters for indoor recreation programs, as well as public and private parking lots and existing utility rights-of-way for outdoor recreation purposes. Private efforts could be encouraged through provision of Federal financial incentives, such as loans and loan guarantees for essentially "high-risk" ventures.

Technical assistance in recreation programming, using the vast expertise in this area to be found among the many Federal agencies involved in recreation activities, could be provided to both the private sector and local municipalities.

Urban recreation

We urge a substantial reordering of priorities for Federal aid to recreation. Not enough money is being made available; too little of what is available is reaching the urban areas that need it the most—and what little does reach them is earmarked for needs of secondary importance. While some States —notably New York, which has included funds for urban recreation in a $1.15 billion bond issue to be on the ballot in November—are trying to fill this gap, Federal assistance is the key.

All Federal aid programs for recreation are underfinanced. We believe that at the very least, appropriations equal to the authorized levels should be made for the "Legacy of Parks" program, including the Land and Water Conservation Fund and other Federal programs bearing on urban recreation.

The funds, furthermore, should be more equitably apportioned. We find disturbing the recent changes in the formula for the Land and Water Conservation Fund. Their effect is to decrease the percentage of Federal support to several densely populated States in the urban East—precisely where recreation needs are most acute. The changes are at odds with legislation pro-

posed by the Administration to make a larger share of Fund monies available to those States with the most urgent need.

The bulk of Federal aid monies for recreation are still for park and recreation projects outside city limits. There have been some reasons for this emphasis; the land there is much cheaper, and, it can be argued, in many cases it does serve the people of the city. The fact remains, however, that the most important recreation for people is their everyday recreation. The needs are now particularly acute in the center city, and it is in the center city, not somewhere else, that they must be met.

What are the needs? To gain fresh insight, the Committee helped launch a unique study of how people actually use the streets and parks and open spaces of the city. The study team, directed by William H. Whyte, has been making sustained observations of key areas. Among other things, it has been using time-lapse photography to chart the round-the-clock use of playgrounds and small parks and has enlisted inner city children to help study their use of streets as recreation areas.

The initial research is yielding some surprising findings. Traditionally, it has been assumed that the big problem of urban playgrounds is overuse. Study has found that the problem is more often the opposite. Some playgrounds are indeed used too intensively. What observation reveals, however, is that for most of the time, most playgrounds are far too little used, and a good number are almost vacant most of the time.

This does not mean that there are too many playgrounds. What it means is that the playgrounds are not meeting the needs of the people, and of the younger people especially.

There are many reasons. One is poor physical design. Many urban playgrounds remain drab and sterile, and in a reverse way, some of the newer ones are deficient too. Some function superbly, but there is a tendency to over-design, and to create features that may be visually stunning to adults but are a bore to children.

But more important than what is in the playground is what is in the neighborhood beyond. To function, a facility must be geared to the unique needs of the area. This calls for a kind of market research that is rarely ventured. What are the ethnic rivalries? What churches count, and what churches swing no weight? Are there any street gangs? What is their territory? Is the older population waning or on the increase? For lack of digging into such key questions, many new playgrounds open to an empty house and stay that way. They are great for people who do not live in the neighborhood anymore, poor for those who do.

There is also a great need for outreach programs. The fact that playgrounds are a good cause, does not exempt them from the discipline of competition. It is not enough to create a playground and open the gates. This is true even of such promising approaches as "adventure junk playgrounds." Even though a facility may be inherently attractive to children, the potential will remain unexplored unless there is an active effort to go out and recruit users.

Outreach programs are especially important for teenagers. Remarkably few of them are to be found in playgrounds, and in some they are actually

banned. So they find recreation in other ways, and society as well as they are the losers.

What all this boils down to is people. Important as land and equipment may be, by far and away the most critical factor in urban recreation is people—trained leaders, volunteer aids, apprentice playleaders—not to mention staff people necessary for routine operation and maintenance work.

This is the part of recreation that is virtually off limits to Federal aid programs. The emphasis is overwhelmingly on capital projects. The Land and Water Conservation Fund, for example, can be used only to fund acquisition and development of recreation land. The same is true with most State programs.

In March 1972 the Conservation Foundation concluded: "State and local governments have made progress in acquisition and development of parks, but there appears to be a nationwide crisis of impoverished operation and maintenance." The Executive Director of the National Recreation and Park Association has recently stated, "This is the single largest deficiency in the whole legislative program."

We urge that the Land and Water Conservation Fund be used for urban recreation programs and that it be expanded to include training, operation, and maintenance. We urge similar changes in other Federal and State recreation aid programs. We believe that the benefits would be immediate.

The programs ought to be broadened to include recreation that takes place outside of recreation areas. As our city study is documenting, the bulk of the recreation that city people engage in is part of their regular life—sitting on the steps, watching the people go by, al fresco snacks, street conversations. In the redevelopment of our downtown areas, there is a great potential for such amenities, but it is scarcely being touched. One big reason is a lack of leadership and direction. This important area is outside the purview of Federal recreation programs (the Urban Beautification Program, for example, has been specifically restricted to publicly-owned spaces). Great opportunities are going begging. We believe that Federal incentives could have potential for the provision of urban recreation and amenity in urban design.

All sorts of innovative approaches need to be explored and tested, such as adventure playgrounds, rooftop parks, blocked-off city streets and alleys, mobile recreation units, "vest pocket" parks, and use of abandoned buildings. Such research and experimentation should prove particularly rewarding for inner city neighborhoods, where severe human problems remain unresolved.

Imagination is the key. Identifying unique but as yet undeveloped recreation resources in urban areas is important. This might include, for instance, redeveloping waterfront lands in many of our cities as a source of public recreation and general environmental enhancement. Another unmet potential stems from the current bicycle explosion in the United States, which could be encouraged through construction of trails and other facilities. Also, in light of the finite nature of outdoor recreation opportunities in many areas due to variance in climate or limited urban open space, support for ndoor as well as outdoor recreation is vital.

Recreation needs and leisure time

In its 1962 report, ORRRC stated, "The problem is not one of number of acres but of *effective* acres—acres of land and water available to the public and usable for specific types of recreation." That statement still holds true today. We have established many new recreation areas, but there are still millions of Americans who do not have access to anything like adequate recreation opportunities.

In measuring recreation needs, it is not enough to consider the needs of those who already participate in some form of outdoor recreation. It is equally necessary to consider the needs of those who do not participate—many of them because they have not had the opportunity. In the *Annals of the American Academy of Political and Social Science* for May 1970, John V. Krutilla and Jack L. Knetsch warned of this danger:

> "In our new-found enthusiasm for recreational planning, we often find ourselves providing only a narrow range of recreational opportunities, and furthermore, we have a great tendency to provide increasing quantities of what we have already provided in the past. A serious error persists in much of our recreation planning of this kind: we are able to judge the demand for recreation facilities solely by observing present recreational habits and multiplying the current participation rates by anticipated future populations. There is serious danger that the resulting magnitudes are completely meaningless . . . This use of facilities is determined not only by what the population in question demands, *but also by what has been made available to them.* The hazard of short-changing the impoverished by this procedure for determining what they want is real and impending. There is too facile a tendency to beguile oneself with computing ratios and performing arithmetic operations, as a substitute for meaningful recreational planning activity."

Not only must our recreation needs be considered, but we need to know more about the adequacy of other opportunities for the constructive use of the leisure time that is becoming increasingly available to all Americans. Broad, positive consequences for society in terms of job productivity, intellectual and social enrichment, and physical and mental health, stem directly from this type of study. As the ORRRC Report stated, "Leisure is the blessing and could be the curse of a progressive, successful civilization."

Far too little is known about the correlation between use of leisure time and basic human needs. While a relatively rich mix of recreation and cultural opportunities has been delineated, even prescribed, for Americans, research into their actual impact on people and applicability to human drives is lacking. What is it, for instance, that draws just a few to the performing arts, and the many to commercial television programming? What characteristics distinguish people who prefer outdoor recreation from those with more sedentary pursuits? And what will be the real effects of increasing leisure time resulting from a shortened work week? These questions are a challenge to the research community.

The nature of diverse leisure time desires and practices of citizens must be clearly understood. In the past, considerable knowledge has been developed concerning the amount and availability of diverse leisure time resources, and

Each new year is a surprise to us. We find that we had virtually forgotten the note of each bird, and when we hear it again it is remembered like a dream, reminding us of a previous state of existence. How happens it that the associations it awakens are always pleasing, never saddening; reminiscences of our sanest hours? The voice of nature is aiways encouraging.

Henry David Thoreau

certainly more such research is needed. But better information concerning physical, economic, social, psychological, and other constraints on people's access to and use of these resources is also vital.

As one suggestion, the Committee would like to see more research focus on the promotion of diversity and richness in the mixture of leisure time activities available to Americans. Accordingly, we are working with the National Endowment for the Arts, the EPA, and other public and private organizations to incorporate contributions of the arts into the drive for environmental quality. Opening avenues of participation in the various art forms for all our citizens, rich and poor alike, offers a potent source of leisure time activity.

The national parks

In marking the 100th anniversary of the founding of Yellowstone National Park in 1872, the United States should take great pride in the magnificent National Park System, which has been steadily expanded over the last century. The national park is truly one of the great ideas of our civilization that has gained worldwide recognition and inspired other nations to follow our example.

As a facet of its Centennial Year, the National Park Service commissioned the Conservation Foundation to conduct an objective study of the Service's policies, programs, operations, and personnel. The Foundation established five task forces composed of park and recreation professionals and informed citizens. The reports of the task forces were then considered at a symposium on National Parks for the Future in Yosemite National Park.

Compliments to the National Park Service are in order. It is a refreshingly unusual move for a public agency to invite a thorough appraisal of itself. It is an excellent example of soliciting citizen participation in the formulation and conduct of a public program, which could well be emulated by other agencies. The Committee urges the National Park Service to expand this concept of citizen involvement to the preparation of master plans for all park areas and in its planning for new areas.

We also compliment the National Park Service for the revolutionary action it took in barring automobiles from a large part of Yosemite Valley and providing alternative access by shuttle bus and bicycle. This is an effective first step in protecting environmental quality of National Parks, and we urge similar innovative action in other parks now suffering from the automobile syndrome.

Highway beautification

At long last, progress is being made toward standards set forth in the 1965 Highway Beautification Act for outdoor advertising, automobile junkyards, and landscaping.

The unsightly billboards that have lined America's interstate highways and primary roads are beginning to fall. We commend recent efforts by the Depart-

ment of Transportation to bring about State compliance with six-year-old Federal outdoor advertising standards by using the leverage of Federal aid for State highway programs. Several States, Vermont most notably, have passed control legislation that goes far beyond Federal standards. Another cause for hope is the outright banning of all billboards by several localities, most recently the City of San Diego. Soon, traveling Americans may be spared the annoyance of these eyesores.

However, two forms of billboard pollution may continue to be a problem. First, the intent of the 1965 statute could easily be defeated if enormous billboards are permitted beyond the existing 660-foot limit. The Committee supports Transportation Secretary Volpe's suggestion to amend the Act in order to prevent this kind of evasion. Secondly, attempts are being made to exempt from legal restrictions billboards which have anti-pollution messages. Such exceptions, we believe, could easily undermine the enforcement of billboard removal as a whole.

Automobile junkyards remain with us. In spite of a growing number of self-improvement campaigns by the auto-wrecking industry itself, acres of the rusting remains of automobiles are still painfully visible. Clearly, efforts by the industry must be supplemented by stronger enforcement of screening requirements. More effective efforts to recycle junked automobiles will also help solve this problem.

The Committee feels there should be much more vigorous efforts for landscaping and protecting scenic corridors, and for other highway beautification programs, such as those for interchanges, overhead and underground highways, and gas stations. We are encouraged by the growing attention to these problems by many States, as evidenced by the apportioning of a percentage of gasoline tax revenues for landscaping purposes.

The Commission on Highway Beautification, authorized by the Federal Aid Highway Act of 1970, has been studying existing laws, policies, and practices related to highway beautification. It has pursued its study with a series of public hearings in five major cities. We have offered our assistance to the members of the Commission, and we are looking forward to the report on their findings, to be released by August 1972.

The 1970 Federal Aid Highway Act also made available long-delayed funding for implementation of the 1965 Highway Beautification Act. We commend this action, but we would still urge that in addition Highway Trust Fund monies be expended for the control of junkyards and outdoor advertising.

Litter

Litter continues to mar our Nation's highways and city streets, our parks and public buildings. To achieve visible results, it is essential to add imagination and renewed vigor to traditional approaches.

Enforcement of anti-litter laws must not only be more strict, it must be more appropriate. The Committee commends, for example, the inventive ap-

proach of several localities which have replaced litter fines with "punishments to fit the crime," such as required street cleaning and litter collection.

Incentives to individual citizen responsibility must be expanded as well. Anti-litter publicity campaigns by industry and civic groups must explore new possibilities, exemplified by the recent appearance of "Don't Litter" slogans on beverage containers. The Committee urges government and industry to work together to expand this practice to packaging and product labeling for other sources of litter: candy wrappers, ice cream sticks, paper beverage cups, cigarette packs, etc. We also encourage expansion of existing programs in which private organizations provide litter baskets for street corners and public buildings in return for a credit line about the donating group.

Industrial design and siting

Our predecessor Committee, the Citizens' Advisory Committee on Recreation and Natural Beauty, established a task force several years ago to study the impact of the electric utility industry on the environment. The 1968 report of the task force made a series of recommendations on, among other things, transmission and distribution lines; power plant siting, particularly the siting of nuclear plants in urban areas; and beautification of industry facilities. Since then, some encouraging progress has been made. The public service commissions in New York and Maryland now require undergrounding of electric lines to all new residential developments.

The Administration is proposing legislation that would require long-term planning and preconstruction approval for plant sites and transmission lines.

Legislation to control the stripmining of coal, much of which is used in power generation, and to require the reclamation of stripmined lands has also been proposed. We urge its early enactment.

The Committee suggests that similar attention be given to the design and siting of other industrial and commercial facilities that affect the natural beauty of the land. The President's recent mandate to the National Endowment for the Arts to improve the quality of government architecture and design should provide a valuable stimulus.

Preservation and Restoration

For far too long this country has heedlessly destroyed elements of our man-made and natural heritage. Now, fortunately, public and private efforts to preserve and restore historic buildings and landmarks are on the increase. Areas of historic, archeologic, and paleontologic significance are also receiving increased attention. We feel that these developments should be encouraged and expanded to include projects of educational, recreational, and community value as well. We commend recent Federal attention to this area and urge

enactment of the several Administration proposals now before the Congress designed to preserve our architectural and historic heritage.

Preservation and restoration offer a particularly vital potential for halting the rapid decay of our cities. The Committee would urge increased Federal and private support of efforts to preserve historic buildings, other urban landmarks, plus often adjacent and vital open space—as a means of improving the general attractiveness and livability of our cities and saving the remnants of our rapidly diminishing urban heritage. Even more important, rehabilitation and restoration of entire sections of our urban centers could prove a potent, yet relatively unexplored, means of providing decent housing and attractive neighborhoods for urban dwellers.

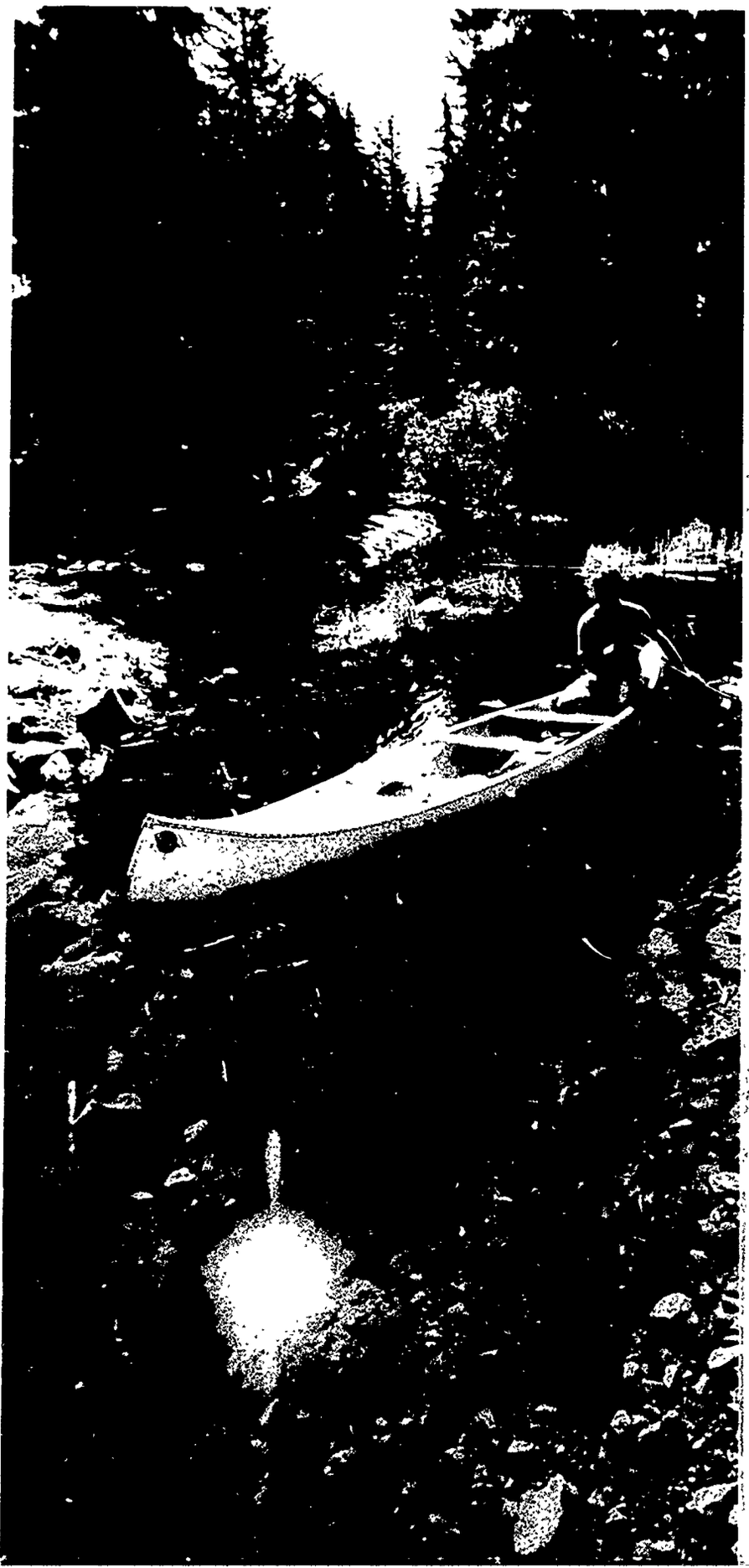
Population density and the environment

There is a widely held belief today that high population density is synonymous with a lack of environmental quality. Our cities are seen by many as unpleasant and deteriorating, alluring for sightseers and commuters but unfit to live in. For all the problems, however, our great urban centers are still inhabited by millions—and for many of these people the city is a place of excitement and vitality, not aggravation and despair. Significantly, in a number of cities many younger couples who could afford to move to suburbia are electing to stay and, in a voluntary rehabilitation effort of considerable magnitude, are converting the inner city blocks into healthy neighborhoods.

It is time more attention were given to strengthening the positive, qualitative aspects of high density areas. The Committee specifically recommends more research be conducted on the effects of population density on people—good as well as bad—and that every effort be made to enhance the natural beauty and overall quality of our essentially man-made urban centers.

In such an effort, the Committee would recommend the following possibilities:

- Reversing the decline of trees, parks, and open space in our cities. Concern should also be directed toward determining the needs of people in the construction of playgrounds for children, plazas and sidewalks for adults, and the natural beauty of our urban architecture for the enjoyment of all.
- Including shops and other private enterprises as an integral part of public housing projects. For lack of such facilities, projects frequently become sterile bastions. Shops and commercial facilities provide important links in the social fabric of a neighborhood, and they also provide considerable opportunities for minority small business investment.



Let no man jump to the conclusion that he must take his Ph.D. in ecology before he can "see" his country. . . . The weeds in a city lot convey the same lesson as the redwoods; the farmer may see in his cow-pasture what may not be vouchsafed to the scientist adventuring in the South Seas. Perception, in short, cannot be purchased with either learned degrees or dollars; it grows at home as well as abroad, and he who has a little may use it to as good advantage as he who has much.

Aldo Leopold

In the past few years the public has been aroused from long-term apathy to an eagerness for environmental quality. We have come to realize that our land and our water and our air are essential to the well being of our nation. We have come to know that environmental quality is not the pet aberration of a few eccentrics but that it must be a first priority of the public business. We are at the crucial point, however, where the easy part, the public realization and acceptance of the need is over. Now we must stop the speech-making and begin the hard action.

Henry L. Diamond

RESOURCE RECOVERY, RECYCLING, AND REUSE

Solid waste problems have become staggering. There are few environmentally effective ways to handle it. In a very short time urban areas will have run out of landfill sites. Proposals for transporting waste to less developed areas meet with stiff resistance from the localities and would certainly prove environmentally harmful in any event. Massive ocean dumping is prohibited by some cities and is likely to be prohibited by Federal, if not international, law. Large-scale, low-cost incineration which does not contribute to air pollution is not yet available.

While we desperately search for ways to dispose of our waste, we are generating more of it. To compound this, our disposable-dependent society uses many nonbiodegradable materials that are difficult to eliminate. Further, the amount of recycled materials used in the production of new products in some industries actually has been declining.

The task of disposal is growing more critical every day. The Council on Environmental Quality reports that costs of collecting and disposing of our Nation's solid waste, which amount to $5.7 billion in 1970, could reach as high as $7.8 billion by 1975. In short, unless we change our present course, we will soon be overwhelmed by an expensive avalanche of trash.

In December 1971, the Committee sent to the President a special report on the problem. Here are the highlights of that report.

Proposed national policy

To deal with the anticipated increase in solid wastes and to conserve our vital natural resources, this country must implement now a policy of maximum resource recovery, recycling, and reuse.

Numerous activities now underway by the EPA, the Council, the Interior Department's Bureau of Mines, the General Services Administration (GSA), other Federal agencies, State and local governments, and the entire range of private organizations and industries working in this field represent a strong start in the right direction.

But still newer policies and fresh approaches are needed to stimulate significant changes in the field of solid waste management. We believe most strongly that the United States cannot continue simply to pay lipservice to the "need for action." When the real crisis comes 10 to 15 years from now, as it surely will, there will be no quick or easy way to solve it unless we act soon in an innovative way.

Governmental responsibilities

The Committee considered thoroughly the division of responsibilities for solid waste management among local, State, and Federal governments. We believe

that the existing emphasis on local and State action is warranted because solid wastes do not have the same potential to affect the environment across State boundaries as is the case with air and water pollution.

Nonetheless, while the Committee believes the mix of governmental responsibilities is adequate, levels of effort in meeting those responsibilities are not. We have urged adequate Federal financing for those pollution abatement programs which must be successful if the Nation is to remain habitable. The Federal commitment is inadequate. Compared to outlays for air and water pollution, those for solid waste are meager. At the present time, the ratio of expenditures is about $10 for water, $1 for air, and 20 cents for solid waste. Without denying in any way the need for water and air pollution control measures, we feel that this funding imbalance needs to be righted.

Responsibility for management of solid waste systems—collection, transportation, storage, and disposal—has traditionally been undertaken by local government, which either hires its own employees or awards contracts and franchise arrangements to private firms to do the work. In some instances, individuals and firms in the business and industrial sector contract privately for the collection and disposal of their solid wastes. Public and private municipal collection and disposal now total more than $4 billion annually nationwide.

Recently, several State governments have increased their responsibilities in the solid waste area, concentrating effort on devising and monitoring comprehensive State solid waste plans and providing technical assistance to local governments. In the past five years, the States, with Federal assistance, have spent millions for planning, and their participation in Federal grant programs has steadily increased.

To date, the role of the Federal Government has been restricted to providing funds for research and development, grants and contracts for training personnel, and grants for demonstration of new or improved disposal and resource recovery facilities. Even so, Federal expenditures have consistently been far too low.

In addition, despite the fact that some States have been assuming a larger role in this area, the Federal Government has yet to authorize grants to assist the States in carrying out their programs. It has made such grants for many other environmental programs; in the air and water pollution control programs, for example, the Federal Government pays 50 percent of the cost of maintaining State agency efforts. Such assistance should be expended to State solid waste management programs, and we recommend that the Solid Waste Disposal Act be amended to so provide.

At the local level there needs to be a drastic improvement in the efficiency of the sanitation forces. The work is disagreeable, and it has one of the highest occupational hazard rates in the country. Labor turnover is high—estimated at roughly 200 percent per year—and morale is low. Many factors are responsible: antiquated technology; poor training; cumbersome work procedures; just plain bad management; and community attitudes which to date have not placed a high value on such work.

This problem will not be solved without fundamental changes in operating procedures, advances in technology, and a shift in public attitude toward sani-

tation personnel. In the meantime, however, a lot can be done through better manpower training. Section 210 of the Solid Waste Disposal Act does provide for a grant program of Federal assistance to States, municipalities, and other public organizations for personnel training purposes. Some effective programs have been mounted, but they are few in number, for funds are limited. Much more should be made available.

Responsibilities of the private sector

Management of our Nation's solid waste constitutes a clear example of the necessary role which the private sector must have in pollution abatement. Estimates for 1972 indicate that private firms will gross over $3 billion in providing solid waste management services for industry and municipalities throughout the United States, handling some 90 percent of our industrial and commercial wastes and perhaps as much as 50 percent of residential refuse. Industrial self-cleanup efforts are also on the rise, and so are research efforts on new technology by our educational institutions.

Increased participation of the private sector in solid waste management systems should be encouraged by the Federal Government.

Full-scale demonstration of resource recovery facilities for urban waste

To handle the anticipated increase in solid wastes and to conserve our natural resources, facilities for maximum recycling of municipal refuse must be put into operation as soon as possible. These facilities are particularly crucial to metropolitan areas, fast running out of available landfill sites and struggling with the problem of devising new disposal techniques.

One of the major reasons facilities of this type are not in operation now is that Federal research, development, and demonstration programs have been underfunded. Prospects of any increased financial commitment seem bleak, since Federal attention has apparently shifted away from support of research and development of solid waste hardware. Sharp cutbacks have been made in funds requested for the EPA's solid waste research, development, and demonstration funds for fiscal 1973. Of the $50 million plus that was authorized to be spent in fiscal 1971-73 by the Interior Department's Bureau of Mines for research and development of metal, mineral, and other resource recovery systems, not a dollar has been appropriated to date.

The technology of solid waste management has yet to be tested on a full-scale basis. In Section 208 of the Resource Recovery Act of 1970, the Congress authorized a full-scale construction program to demonstrate new resource recovery technology. To date, no funds have been spent for this purpose. Some $15.5 million in Section 208 funds appropriated by the Congress for the current fiscal year have now been released by the Office of

Management and Budget (OMB), and this is at least a start. We would emphasize, however, that such a low level of funding can hardly scratch the surface, particularly if solid waste management systems are to be demonstrated on a scale commensurate with urban needs. For financing resource recovery facilities, some real money is needed.

There is a lack of money; there is also a lack of consensus as to which system or systems would be best to develop on a large scale. What works in one area of the country may or may not be successful in another—especially when transportation, markets, resource availability, and other factors are considered. Failure of past attempts to arrive at a perfect solution have inhibited any large-scale commitment of funds and resources. The Federal Government has been far too reluctant to take the risk of funding the wrong choice. The result: no choice.

The Committee is fully aware of the risks involved in any large investment in technology without an adequate pre-testing of facilities on a smaller, pilot scale. Nevertheless, we feel that this risk is clearly worth taking. The NASA effort of a full-scale crash research, development, and demonstration program to put America on the moon serves as ample precedent. So does the recent decision of the Administration to build two demonstration liquid metal fast breeder reactor plants as part of a comprehensive Federal-private energy technology research and development program. Solid waste management technology deserves no less attention.

Technological solutions to these problems are now within our grasp. To seize them, the Federal Government should launch a major demonstration program to test the feasibility of systems for recycling and reuse of refuse from large cities. This program should be in full-scale operation as soon as possible.

Plans for construction of such facilities, of course, must take into consideration the markets for their products and other factors that would be necessary to make them economic on a continuing basis. Concern for such matters, however, should not delay initiation of a major demonstration program now. Many problems can be resolved only after a resource recovery system is in full operation, with its very success being the agent of changed economics.

Federal tax and purchasing policies

If the Federal Government is to commit itself to fostering maximum resource recovery, recycling, and reuse, it should change its present tax and purchasing policies to further that goal. Such a commitment should have a three-fold purpose: to provide economic incentives to private industry; to stop practices which needlessly intensify our solid waste problems; and to conserve natural resources.

To these ends, the Committee recommends consideration of a number of Federal tax incentives and disincentives and governmental procurement policies.

Here are several possibilities.

Equitable tax treatment: At present, the principle of a tax depletion allowance applied to extraction of certain materials from our natural resources is not applied to recovery of useful material from our wastes. Other tax provisions and regulations also give special treatment and economic benefits to extractive industries. These differences in tax treatment make it economically more attractive to use new raw materials than those which are recycled or reused. A Federal tax policy should therefore be devised that will give at least comparable tax treatment where recycled and reused materials are used as that given natural resources through depletion allowances.

The investment tax credit: Many industries are currently unwilling to invest substantial resources in recycling equipment because of the high cost and risk involved in such a venture. Development of a new "recycling industry" has also been inhibited by the need for expensive equipment to get started. The Committee feels the Federal Government should at least consider the possibilities of offering an investment tax credit for investments in new plants and equipment geared to the production of marketable products from recycled materials. This credit might also be made available to industries now engaged in other activities, such as aerospace firms, and be made applicable to new companies established solely for recycling purposes.

Accelerated amortization: When it repealed the 7 percent investment tax credit in the Tax Reform Act of 1969, the Congress permitted five-year amortization deductions for pollution control equipment installed in operating plants before 1975. The statute, however, denies any such favored tax treatment to industrial facilities which realize profits derived from products recovered from recycled waste. In short, there is a financial incentive for industrial pollution control but not necessarily for resource recovery. This policy deserves reconsideration.

Tax exempt industrial development bonds: Federal tax legislation in 1968 generally ended the tax exempt status then given to industrial development bonds. But it provided industry with yet another environmental tax incentive; it left intact the tax exempt status afforded to industrial development revenue bond financing of various pollution abatement equipment and facilities installed by industry. Specifically included are bonds to finance industrial facilities constructed to collect, store, treat, utilize, process, or dispose of solid waste. It has not been clear, however, if this new law encompasses industrial recycling facilities which could pay for their construction cost or even produce a profit through the production of energy or secondary materials. The administration has recently moved to clarify the availability of such tax exempt treatment of bond financing for recycling facilities built by private concerns to handle their own wastes. It has also attempted to define exactly what is meant by the term "solid waste." The Committee is hopeful that these changes will result in tax preferences to the solid waste recycling or secondary materials industry.

Tax on detrimental products: New taxes could be put on products that contribute heavily to solid waste pollution. Certainly, such disincentive measures deserve full examination before enactment of any national standards, but in

"The face and character of our country are determined by what we do with America and its resources..."

Thomas Jefferson

the interim the States can take important first steps. Oregon, for example, just last year passed a law requiring a deposit on certain beverage containers and banning detachable opening tabs on metal cans.

Markets: Unless new markets are developed, the use of recycled materials will not increase fast enough. The Federal Government could stimulate development of new markets by restructuring its procurement and construction policies.

What the GSA is doing about paper is a good example. Under this program, set up last year at the order of the President, GSA is requiring that much of the paper it buys contain some recycled content. By the end of this year GSA estimates, over two-thirds of their $105 million of annual paper purchases will be meeting its specified minimum. The GSA is helping States set up similar procurement programs, and it is experimenting with a new system of separation, collection, and sale of waste paper from Federal Government offices. The Committee commends the GSA program and urges its expansion to include acquisition of other recycled products.

Specifications set by the Congress concerning the procurement of writing, printing, and certain other types of papers for the Federal Government in effect discourage the use of recycled paper. They should be reconsidered.

In addition, the Federal Government could require maximum feasible use of recycled materials in purchases made under Federal grants and contracts. Federal construction and procurement programs for fiscal year 1972 will total around $31.3 billion; if a reasonable percentage of this massive purchasing power were directed toward recycling and use of secondary materials, the effect would be substantial. So too would be the effect if State and local governments took similar action.

Citizen action

The growing interest of citizen groups has been a major factor in causing government and industry to move faster in devising successful recycling programs. Anti-litter campaigns and the creation of local reclamation centers have focused public attention on the potential value of recycling. While the total number of bottles, cans, and paper collected and separated at home and local recycling centers may constitute perhaps only a small percentage of the total produced, this at the very least is a beginning toward solution of a very large problem.

Unfortunately, many false hopes have been raised about the likelihood of large-scale recycling as a solution to our solid waste problems in the immediate future. There will have to be some fundamental and long-range changes in our life styles and the structure of our economy to achieve such a goal. Too often citizen groups have rushed into setting up local reclamation centers, only to find that poor planning, lack of existing markets, and a tapering-off of volunteer participation forced them to close. Having started with high expectations, many people become discouraged about the potential of recycling. The publicity and glamorization of recycling has also had a negative

effect on efforts to construct less glamorous types of disposal facilities, such as sanitary landfills, that are needed now.

Recycling can be and has been an effective tool with which to spur community education, health care, and other vital complementary programs. A small number of vocal and interested citizens' groups are also an excellent catalyst for attacking one of the major impediments to large-scale recycling: public apathy and ignorance. At this point, no one is sure how willing the majority of American consumers are to abandon the pervasive "convenience psychology" that exists in the United States. By and large, the average citizen does not associate his increased consumption of packaging materials, for instance, and the increasing costs of local refuse collection paid for out of his taxes. A number of groups have launched anti-waste campaigns in order to encourage people to become conscious of ways to reduce unnecessary waste. If applied on a broad scale, such waste avoidance programs could reduce the amount of solid waste produced as well as conserve our natural resources and consumption of energy.

Closely tied to these anti-waste campaigns are citizen efforts to change the strongly held public notion that "reprocessed," "reused," or "recycled" products are inferior to goods made solely from new or virgin materials. Consumers must begin to demand these products in the supermarket and in the department store to create critically needed new markets for recycled materials.

Freight rates

Traditionally, freight rates established by the Interstate Commerce Commission (ICC) for the most part discourage recycling. For example, it costs almost $1.50 per gross ton more on the average to ship ferrous scrap than newly mined ore for domestic use. Similar situations exist for other secondary materials, and they work against recovery of solid waste.

Over the past year or so, the ICC has given some encouragement to the use of recycled materials. In giving the railroads an across-the-board increase, it accorded a lower rate increase to scrap metal, paper, and textile commodities. It also simplified procedures under which trucks transport waste products for recycling and reuse.

In general, ICC freight rates continue to discourage use of secondary materials, but it is encouraging to learn that the ICC, at the urging of the Council on Environmental Quality, has recently stated its intention in setting freight rates to comply with environmental impact statement requirements of NEPA. In our 1971 Report, the Committee recommended that the ICC initiate comprehensive remedial action as soon as possible. We urge prompt further action.

State agencies should conduct a similar review and initiate new policies where necessary in establishing intrastate freight rates. Congress is focusing renewed attention on rising ocean freight rates. They are set by various shipping conferences and regulated by the Federal Maritime Commission (FMC)

under the authority of the Shipping Act of 1916. These rates, like those of the ICC, tend to benefit new as contrasted with secondary materials.

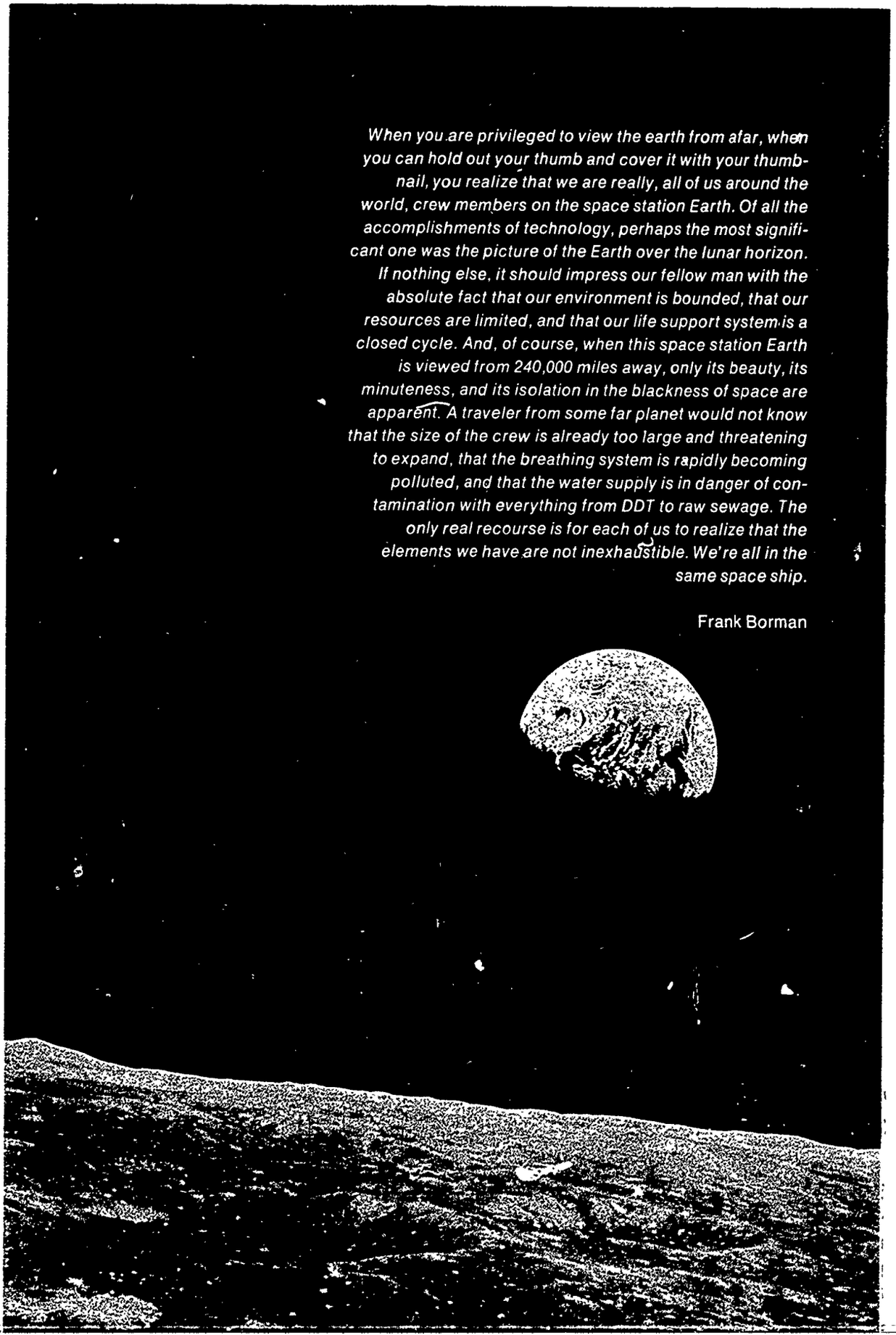
Lubricating oil and tires

Two items—lubricating oil and tires—are excellent examples of how a psychology of waste has taken precedence over conservation of our natural resources.

During World War II, there was large-scale recycling of these products. After the war, however, these efforts diminished. Today, the greatest impediment to extensive recyling and reuse of these two products, as is true of many other products now in use, appears to be the lack of economic incentives.

The use of re-refined lubricating oil was once a common practice employed by bus, truck, and taxi fleets, and by the Air Force and the airline industry before the advent of the jet airplane. Waste oil is still being re-refined and reused, but more infrequently in recent years, as it has become less and less economically attractive. Certain tax policies, consumer prejudices against buying "used" products, and technological changes in the refining process all have contributed to this economic situation. Disposal of waste oil also poses a severe problem to our environment, as it is often dumped into city sewer systems or seeps into open areas from nearby industrial sources. Estimates of used lubricating oil being wasted indiscriminately range up to 750 million gallons per year. More research is certainly needed on improving collection and disposal of waste oil, developing alternate uses, and providing economic incentives to encourage its reuse.

Approximately 180 million tires, almost a tire per person, are discarded each year, and they pose particular problems of disposal. Tires are a source of air pollution when burned, do not settle into sanitary landfills easily, and often are found on junked automobiles despoiling the roadside. At present, however, there is little information as to ways of making tire recycling and reuse economically attractive. To surmount this, the EPA has undertaken a major study in this area, and there are a number of other promising research projects being conducted by Federal agencies and private industry. We urge expansion of such efforts.



When you are privileged to view the earth from afar, when you can hold out your thumb and cover it with your thumbnail, you realize that we are really, all of us around the world, crew members on the space station Earth. Of all the accomplishments of technology, perhaps the most significant one was the picture of the Earth over the lunar horizon. If nothing else, it should impress our fellow man with the absolute fact that our environment is bounded, that our resources are limited, and that our life support system is a closed cycle. And, of course, when this space station Earth is viewed from 240,000 miles away, only its beauty, its minuteness, and its isolation in the blackness of space are apparent. A traveler from some far planet would not know that the size of the crew is already too large and threatening to expand, that the breathing system is rapidly becoming polluted, and that the water supply is in danger of contamination with everything from DDT to raw sewage. The only real recourse is for each of us to realize that the elements we have are not inexhaustible. We're all in the same space ship.

Frank Borman

TECHNOLOGY AND MANPOWER

The advanced technologies and the large pool of trained manpower that exist in this country offer a great potential for environmental quality. To date, this has been scarcely realized. In his annual State of the Union address, the President said:

> In reaching the moon, we demonstrated what miracles American technology is capable of achieving. Now the time has come to move more deliberately toward making full use of that technology here on earth, of harnessing the wonders of science to the service of man.

Since then, the President has submitted to the Congress the first Message on Science and Technology, requesting action in several areas.

Energy research and development

Energy is a primary challenge. Clearly, in light of our increasing energy needs, coupled with relatively finite energy resources and mounting environmental problems surrounding their use, this Nation must begin now to create the technology necessary to produce abundant and "clean" power.

In the last year, the Administration has taken substantial steps to provide requisite Federal financing for such an effort, and the Congress is devoting increasing attention to problems in the energy field. This stepped-up Federal concern should ultimately produce tangible progress toward resolving the Nation's growing energy crisis.

This concern poses an important question: What should be the proper mix of financing and organization of public and private research and development efforts?

> ***It is our feeling that Federal support for one process, such as breeder reactors, should be supplemented by research efforts on other possible energy sources. We particularly urge more emphasis on controlled fusion and solar energy, where recent technological progress would indicate accelerating promise. Further, an expanded research and development effort to provide "clean" energy should, in our judgment, also utilize the diversity of energies, imagination, and funding of both the public and private sectors. This is particularly critical if we are to maintain an adequate supply of electrical energy.***

Mr. Lelan F. Sillin, Jr., one of our Committee members, has proposed that the electric utility industry invest $40 billion on research and development over the next 30 years—the equivalent of about 2 percent of the industry's gross annual revenues. This would be done in a three-stage program designed to improve energy generation and distribution technology and eventually develop a pollution-free energy system. His proposal, "A Project for Prometheus," is a constructive challenge to the industry.

The Committee is particularly pleased with the Atomic Energy Commis-

sion's attempts to protect the public interest through adequate environmental safeguards for nuclear power and a public role in decision-making.

> ***Our energy problems call for the exercise of the rule of reason. Thus we restate our belief of a year ago that the objective should be to assure that needed energy will be produced with minimum damage to the environment and without unnecessary delay. There must be a resolution between our needs for energy and our concern for environmental protection.***

Waste water treatment technology

The technology for converting sewage effluent to drinking water quality is available. Such technology, however, is seldom used. Designs generally continue to apply to concepts that date back 30 to 40 years, chiefly conventional primary and secondary biological treatment. This is inadequate to deal with modern industrial pollutants and growing municipal urban waste problems and increasingly overtaxes fresh water supplies. We feel an upgrading is particularly critical in view of the estimated $7.4 billion now being invested in sewage treatment plants, and since proposed legislation before Congress would authorize many billions more.

Sewage treatment plants normally are designed by one commercial entity, built by a second, and operated by the community—a practice which discourages the rapid spread of new technology. Further, while the problem of sharing technology among communities, public R&D groups, and private engineering firms across the country is being met to some extent by EPA's newly created "Technology Transfer Program," supplemental solutions are needed. Information about available technology needs to be disseminated to more than just those responsible for designing new plants. Local governmental officials, even citizens, who often are completely unaware of technology currently available and the availability of Federal funds for construction of treatment facilities, and procedures to follow in applying for them, should also be informed.

Another factor obstructing the application of new technology is poor use of the old. As a result of untrained personnel and improper maintenance, existing plants are being poorly operated, and this has inhibited the design of even more complex yet necessary new facilities. Delays in Federal financing, complex institutional red tape, and inadequate governmental technical assistance at the State and Federal levels—all of which result in rising construction costs—militate against treatment plant design commensurate with local needs. In sum, the considerable funds and new technologies available for waste water treatment are not being used.

Over the next several months, we plan to conclude a review of the status and utilization of municipal and industrial waste water technology and will report thereon.

Manpower

Technological progress requires a productive people, with full employment

for all. As the President has said, we must find ways to tap the full potential of every citizen.

> This means doing all we can to open new education and employment opportunities for members of minority groups. It means a stronger effort to help the veteran find useful and satisfying work and to tap the enormous talents of the elderly. It means helping women—in whatever role they choose—to realize their full potential. It also means caring for the unemployed—sustaining them, retraining them and helping them find new employment.

America's technological competence and available manpower constitute critical elements of any plans to improve the quality of our environment. Reaping their full potential could not be more urgent.

Voluntary efforts by citizens have proved an effective force for environmental improvement, and a growing number of public and private organizations are encouraging and training citizens for such work. ACTION, a newly created Federal voluntary service agency that includes the Peace Corps and VISTA, is planning to develop a nationwide environmental program using volunteer workers. EPA is working with the National Center for Voluntary Action to examine potential volunteer opportunities in the environmental field.

> ***The biggest challenge, however, is to utilize the full potential of our overall manpower base—highly skilled, semi-skilled, and unskilled alike. This will require a large commitment of financial and other resources from both the public and private sectors. It will also call for imagination and innovation in matching people with jobs.***

There is a surplus of highly skilled manpower that could be directed to the problems of air, water, and solid waste management and control. This is particularly the case in the hard-hit aerospace industry and in the ranks of returning veterans. Recently, the Administration has taken steps to resolve this crucial problem of relocating highly trained manpower. Legislation is pending before Congress which would authorize a National Science Foundation program to aid unemployed scientists and engineers in the conversion from defense to civilian research and development activities.

The underuse of manpower is even more severe, however, among semi-skilled and unskilled workers, the great majority of those without work today. Many of the jobs that could help achieve a quality environment do not necessarily require a high level of education or work skill.

Nowhere is this need so keenly felt as among our youth, particularly those living in our inner cities. They face a cruel mismatch of jobs and people. The *REPORT OF THE WHITE HOUSE CONFERENCE ON YOUTH* summarizes it well:

> This country faces a paradox. On the one hand, there are over five million unemployed individuals, including over one million 16 through 19-year-olds. On the other hand, public services—such as schools, hospitals, housing and ecological concerns—are starved for funds and manpower. Creativity and leadership are needed to put together the unemployed's need for work and the public, or human services' need for manpower to improve the quality of national life.

I do not chatter any more.
How could my waters chatter,
Crawling along 'twixt shore and shore
Chock-full of morbid matter?

parody of Tennyson

The Committee recommends that the Federal Government supplement its present efforts by initiating a substantial program of public employment to end the waste of human potential in our inner cities, especially among youth. This program should be accompanied by on-the-job and institutional training and other supporting services. Such a program would provide a start toward achieving the Nation's goal of full employment for all of its citizens and contribute significantly to environmental quality. In dollars it would be costly; in human terms it would have benefits that could be measured only by the happiness, equity of economic opportunity, and basic security afforded Americans.

Such a program would also require new approaches. The newly created Youth Conservation Corps program administered by the Department of Interior is a fine example, and we urge its expansion. Use of the Armed Services, perhaps in a national environmental cleanup campaign, is another possibility. In the State of Oregon, the National Guard has participated recently in a program of junk car disposal with great results.

We are intrigued with the possibilities for using the United States 1976 bicentennial celebration to help environmental goals. We urge that the Federal Government tie the bicentennial over the next four years to local environmental action and to particularly worthy projects aimed at meeting realistic environmental goals of regional or national scope. An effort of this scale would offer citizens and industry alike a unique chance to participate with government in working toward a quality environment for America. The Committee stands ready to assist the EPA, the American Revolution Bicentennial Commission, and others—in both the public and private sectors—in developing such a program.

Reconstructing of our environment will not be done by computers, but it will demand that people become very much involved. The magnificent natural beauty of the United States is being spoiled everywhere, and everybody's participation is required to change this course.

Rene J. Dubos

CRITICAL ISSUES

Environmental education and citizen responsibility

Improvements must be made in the quality and accessibility of environmental education in this country. It must reach citizens of all ages, encompass numerous academic and technical disciplines, and utilize the broadest possible range of formal and informal educational settings.

> ***There is still a tremendous need for education on waste reduction of all kinds: waste of electricity, gasoline, and other forms of energy resources; waste of water and food; waste of paper, metals, minerals, glass, and our other natural resources. EPA, working with the Office of Consumer Affairs, the Department of Housing and Urban Development, and other Federal agencies, is actively launching public education programs for the reduction of consumer waste. We would urge similar programs on waste avoidance for business, industry, and State and local government.***

The State of Oregon has initiated an imaginative means of encouraging pollution abatement through its Clean Up Pollution program. An award is presented by the Department of Environmental Quality to a deserving person, community, or industry, selected by a State-wide citizens' committee. Industrial recipients are authorized to use a specially designed monogram on products. The award is made only in truly outstanding cases. The Committee finds this a very positive move which might appeal to other States.

Far more could be done to reach the vast audience of television viewers. Through their news programs, the networks have done an excellent job publicizing the major issues of environmental concern, but they have offered little in the way of programs with actual educational content. Documentaries and cartoons on the environment could make a tremendous contribution; the possibilities of televised environmental education are virtually limitless. One of the most interestng experiments is "Man and Environment," a television learning system developed by a consortium of colleges headed by Miami-Dade Junior College. The National Geographic Society has also sponsored a series of effective TV specials on a variety of environmental topics.

Several environmental education programs have recently been launched by the Federal Government. In October 1971 President Nixon initiated the Environmental Merit Awards Program, now administered by the EPA and supported by the U.S. Office of Education (OE). This program provides national recognition to successful student environmental projects. It has already involved over 2,000 high schools across the country.

The National Park Service has done impressive work in developing curriculum materials through the National Environmental Education Program (NEED). Through the National Environmental Study Area program (NESA), it has set up study sites on Federal parklands and is now extending the program to natural and man-made sites, public and private. The Committee urges the environmental study sites be located as much as possible in or near our major urban areas.

The Forest Service, on very limited funds, has set up an effective teacher-training program. The program uses Forest Service field personnel to conduct environmental workshops for teachers from widely varying disciplines. The Committee urges increased funding for the expansion of this effective program.

In August 1971 the Cooperative Extension Service of the Department of Agriculture established an admirable campaign called "Environmental Thrust" to provide organizational and technical guidance to community projects in environmental quality.

By far the most significant Federal activity over the last year in the realm of environmental education has resulted from carrying out the Environmental Education Act of 1970, including the establishment of an Office of Environmental Education within the U.S. Office of Education and the appointment of a National Advisory Council to oversee the implementation of the Act. Some 74 grants totaling over $1.7 million processed during Fiscal Year 1971 made possible a wide range of projects, mainly outside the context of formal education. It is expected that in Fiscal Year 1972, some 130 programs will be funded, most of them stressing community-based environmental education focused on local environmental problems. This emphasis on community education projects is commendable, and it answers a need unfilled by other sources.

When the Act is renewed following its expiration in 1973, we urge that the Office of Environmental Education be given specific oversight authority over all OE funds used for environmental education, including those distributed under Title I of the Higher Education Act, Title III of the Elementary and Secondary Education Act, and various other OE authorities.

Increased funding would multiply the effect of these Federal programs. So too would greater coordination of them. A promising beginning may be seen in cooperative agreements for the creation, dissemination, and promotion of methods, materials, or philosophy existing between the National Park Service, OE, and ACTION.

The global environment

In June, the first United Nations Conference on the Human Environment is being held in Stockholm, Sweden. To some, no doubt, new concern for the global environment is surprising and perhaps disconcerting—let us put our own house in order, it is argued, before we worry about other parts of the world. But there is good reason for the worry. The Conference recognizes that all peoples of the world are co-tenants of the same planet and that if we are to survive, we will have to take better care of it than we are now. Maurice Strong, Secretary General of the Conference, pointed out that "All countries, no matter what their political ideology, no matter what their social and economic orientation, no matter what the stage of their development, face the challenge on equal terms."

The Stockholm Conference will have produced substantial benefits even before it convened. Some 70 countries drew up reports on the state of their

environment, a process which in itself could lead to many environmental improvements in those countries.

A United Nations Preparatory Committee—representing 27 nations, including both developed and developing countries—sifted the national reports and suggestions and compiled an impressive body of documents to be placed before the Conference for approval. These include:

- "A Declaration on the Human Environment," establishing the need for international cooperation and setting forth certain guiding principles for world action.
- An "Action Plan for the Human Environment," with an agenda that encompasses the social and cultural aspects as well as the physical.
- Drafts of several international conventions relating to: the control of the dumping of wastes into the oceans; a World Heritage Trust to prevent the destruction of certain areas of outstanding natural, cultural, or historical significance; the protection of certain endangered species of wild animals and plants; the conservation of certain "Islands of Science;" and the conservation of wetlands.

In his February 1972 Message on the Environment to the Congress, the President proposed that a voluntary United Nations Fund for the Environment be established, with an initial funding goal of $100 million for the first five years. He said he would recommend to the Congress that the United States commit itself to provide its fair share of the Fund on a matching basis over the five-year period.

The Committee strongly supports the President's proposal. We feel that international agreement on protection of the environment warrants priority attention and support of the United States. We hope that the Conference results in a strong and effective international organization with authority to protect environmental quality. Fear of short-range, economic disadvantage should not be allowed to obscure the essentiality of effective international controls. Following the Stockholm Conference, provision should be made for continuing citizen participation in the formulation of United States policy on the international environment.

The need for action is imperative. As U Thant has said, "Like it or not, we are all traveling together on a common planet. We have no rational alternative but to work together to make it an environment in which we and our children can live full and peaceful lives."

The economics of the environment

During the rapid surge of public concern for the environment over the last few years, relatively little attention was paid to the economic costs involved. This was perhaps natural enough, for there was a genuine sense of alarm, and one generally does not think about the cost of a fire truck when his house is on

fire. But now that environmental quality has become an accepted goal of our Nation, it is important that we do consider the economics.

The Committee has considered the possible applicability to environmental decision-making of the cost-benefit concepts expressed in the *Proposed Principles and Standards for Planning Water and Related Land Resources,* prepared by the Federal Water Resources Council and published in the December 21, 1971, *Federal Register.*

It would seem that much of this procedure could and should be used in order to optimize environmental improvement and minimize costs. Of 14 national priorities listed in order of gross annual expenditures in a National Planning Association study, 8 (accounting for more than half the national expenditures) are directly related to environmental problems, and it would appear that a possible new approach to environmental improvement might involve: (1) incorporating environmental considerations directly into these priorities (such as housing, urban facilities, plant and equipment, etc.) and (2) requiring that any Federal appropriations or controllable private expenditures for these purposes be conditioned upon meeting fixed environmental standards.

It appears further that any practical cost-benefit procedure would force consideration of the fact that environmental costs will depend upon two vitally important variables: the degree of purity required and the amount of time that can safely be made available within which to reach fixed standards.

The advantageous balancing of these variables can produce vast savings without diminishing ultimate environmental results, while ignoring them can contribute to economic waste. The Committee is continuing its cost-benefit investigations and anticipates reporting further on this vital subject.

In many forums across the country, there has been mounting discussion during recent months of the costs of environmental protection measures. Caution flags have been raised in various quarters—warnings that the Nation is attempting to move too far too fast in its quest for environmental quality and that this could have adverse effects upon the national economy. So far, very few industrial plants, unable to meet environmental standards, have closed their doors, but forecasts of additional shutdowns have become more frequent. Concern has been expressed over the cost of pollution control devices on automobiles and the consequent effect on the consumer. Some cost estimates for meeting the requirements of proposed water quality legislation border on the astronomical.

The need for better economic data has been articulated in recent legislative and judicial actions. In the Conference report on environmental appropriations for the present fiscal year, the Appropriation Committees of the House and Senate urged that environmental impact statements prepared by agencies include "full information available not only as to the impact upon the environment but also the significant economic impact on the public and the affected areas and industries . . . including employment, unemployment and other economic impacts."

In July 1971 a Federal court action gave great impetus to the drive for economic analysis. This was the decision of the U.S. Court of Appeals for the

"It means something to live where one sees space and sky, or to live where one sees nothing but rubble or nothing but high buildings."

James Baldwin

District of Columbia in the case of Calvert Cliffs' Coordinating Committee, Inc., et al., versus Atomic Energy Commission, et al. In this decision, which relates to the effect of the National Environmental Policy Act upon AEC rules governing the licensing of nuclear power plants, the Court stated:

> NEPA mandates a case-by-case balancing judgment on the part of Federal agencies. In each individual case, the particular economic and technical benefits of planned action must be assessed and then weighed against the environmental costs; alternatives must be considered which would effect the balance of values.

The Committee commends the new leadership of the AEC for its constructive reaction to the Calvert Cliffs decision in announcing that it would not appeal the decision and revising its procedures. The Commission will require each applicant for a nuclear power license to submit a detailed cost-benefit analysis, and it will also prepare its own cost-benefit analysis as part of its decision-making process. The Council on Environmental Quality recognized the broad implications of the Calvert Cliffs decision and urged other Federal agencies to determine the impact of the opinion of their programs.

> ***The Committee believes that cost-benefit analysis should be applied to a broad variety of programs and projects—including both environmental protection projects (such as a park) which should be required to show economic costs, and development projects (such as a highway) which should be required to show all social and environmental costs.***

This increased emphasis upon economic analysis is highly encouraging. It will provide a better basis for weighing the merits of a specific project. As the procedures for preparing cost-benefit analysis are refined, they should provide a method for ranking projects in some order of priority. The Committee hopes that some form of economic analysis can also be applied to overall environmental programs—as well as to individual projects—since this would be helpful in establishing priorities among programs. As we point out elsewhere in this report, present priorities do not accurately reflect some of the more urgent environmental needs.

A significant report on costs was published in March 1972, *THE ECONOMIC IMPACT OF POLLUTION CONTROL, A Summary of Recent Studies,* prepared for the Council on Environmental Quality, the Department of Commerce, and the Environmental Protection Agency. The purpose of the studies was to assess the magnitude and significance of the dislocation costs the overall economy will bear as a result of water and air pollution control requirements for specific industries.

The findings are most encouraging:

> In general, the studies found that the impact of those pollution control costs that were estimated and examined would not be severe in that they would not seriously threaten the long-run economic viability of the industrial activities examined. However, the estimated impact is not inconsequential in that there are likely to be measurable impacts both on the economy as a whole and on individual industries.

There is a further step to be taken. The report does not attempt to evaluate the positive economic impacts, although it mentions a number of important ones.

> ***As economic analysis is expanded and refined, we strongly urge that as much attention be devoted to the benefits as to the costs. People too often forget the very substantial benefits that stem from environmental protection measures. These benefits take the form of reductions in measurable damages to human health, property, crops, and livestock, as well as in the improvement of esthetics and the quality of life.***

Chairman Russell E. Train of the Council on Environmental Quality put tne case in these words:

> *If we balance the overall costs and benefits of our pollution control programs, I am personally confident that we would find a net economic gain; indeed, that we would find that many more have gained than have lost. There is a net profit to our society in cleaning up the environment. It is time that we stopped looking at environmental programs simply as a problem and start seeing them as an opportunity.*

Allocation of governmental responsibilities

In last year's report, we stressed our belief that a key Federal task was the assignment of environmental priorities and a balanced provision of funds to achieve them. The business is still unfinished. To be sure, an enormous amount of progress has been made, not only by the Federal Government but by the States and local governments and by the courts too. This has resulted in positive environmental benefits. It has also caused an increase in the very complexity of governmental responsibilities, and many imbalances remain.

The proper division of responsibilities among the Federal Government, the States, and lower levels of government is not one that is going to be easy to resolve. Diverse local regulations have proliferated—awaiting State or national standards. While the States have had the primary responsibility for environmental protection programs, involvement of the Federal Government is increasing. Duplication of regulatory authority, inadequate funding, and a misuse of particular governmental expertise and manpower is beginning to plague State and Federal programs. In short, the environmental movement of government is experiencing its first signs of wear, with the key questions being: Who is in charge of what? And who should be?

The Committee hopes to formulate some proposals for an appropriate division of governmental responsibilities.

The quality of our urban environment

With three out of every four Americans now living in urban areas, the rapid physical deterioration of our cities and the critical human problems acocmpanying this decline pose an enormous challenge to the stability of our Nation.

To meet this challenge, a much broader perspective must be given the term "environmental quality." Quality of life embraces more than simply physical comfort and freedom from want in any material sense. Indeed, the essence of quality urban living lies in its diversity and complexity. As such, achieving a better environment for our cities will involve not only physical needs—of providing streets free of litter, clean air and water, houses free of rats and lead-based paint, and of preventing damage to natural surroundings—but much more. The goal must include adequate health, housing, education, jobs, recreation, cultural opportunities, and means of transportation. It also demands, particularly for the people of our inner cities, a sense of personal dignity, self-respect, and community involvement and participation in decisions which so affect their lives.

Revitalization of urban America, to be sure, will require more money, well spent, and more technology and manpower applied to the task. Much thought, imagination, patience, and plain hard work will also be needed. Above all, drastic changes in our system of values and use of resources must occur. Increasingly negative attitudes toward welfare recipients on the part of our work-ethic-conscious public will soon have to shift to a recognition that too often their plight is the end result of economic, educational, and other inequities that have too long existed in our country. We must not continue to have sprawling, affluent white suburbs and compact, deteriorating inner cities of Blacks and other minorities. Attention will have to be given to the conditions which spawn crime, and remedial action taken. Assurance of justice in the courts; consumer and credit practices that enhance, not worsen, the financial distress of our urban dwellers; and adequate municipal service for all are additional goals.

Yet, the Committee is optimistic that action will be taken, and taken soon. In a time of crisis, when we face a common threat, the American people really do work together. We believe that urban life is at just such point of crisis and that more and more Americans are recognizing that they have a vital stake in its successful resolution.

The Committee believes that the revitalization of our great cities is crucial to the future of the Nation. It is therefore establishing a Task Force on the Urban Environment to make a concerted study of the problem. Membership on the Task Force will include members of the Committee and others with special knowledge and experience in the urban field.

Report by Senate Committee
on Labor and Public Welfare on
Environmental Education Act of 1970

Environmental education is an integrated process which deals with man's interrelationship with his natural and man-made surroundings, including the relation of population growth, pollution, resource allocation and depletion, conservation, technology, and urban and rural planning to the total human environment. . . . Environmental education is intended to promote among citizens the awareness and understanding of the environment, our relationship to it, and the concern and responsible action necessary to assure our survival and to improve the quality of life.


Santa Fe

APPENDIX

The Citizens' Advisory Committee on Environmental Quality was established by President Nixon through Executive Order 11472 of May 29, 1969. The Executive Order reconstituted the earlier Citizens' Advisory Committee on Recreation and Natural Beauty created by President Johnson in 1966. Under terms of the Executive Order, the Committee is to advise the President on all matters pertaining to environmental quality. The National Environmental Policy Act of 1969 (Public Law 91-190) further provides that the Council on Environmental Quality, which was also established by the Act, shall consult with the Citizens' Advisory Committtee. Thus, the Committee is advisory to both the President and the Council.

The Committee consists of 15 members appointed by the President to three-year, staggered terms. On July 13, 1971, President Nixon reappointed Mr. Laurance S. Rockefeller and Dr. Rene J. Dubos as Committee members for terms expiring May 3, 1974; he also appointed the following new members for similar terms: Colonel Frank Borman, Miami, Florida; Dr. E. Corinne Galvin, Ithaca, New York; and Mr. Jack B. Olson, Wisconsin Dells, Wisconsin. Mr. Rockefeller, who has chaired the Committee since its inception in 1969, was designated to continue as Chairman.

Since the publication of its April 1971 *REPORT TO THE PRESIDENT AND TO THE COUNCIL ON ENVIRONMENTAL QUALITY,* the Committee has held three quarterly meetings in Washington, D.C., and one in Portland, Oregon, at the invitation of Committee member Governor Tom McCall. The two-day Portland meeting, held in the early fall of 1971, included a bus tour of the lower Willamette Valley and the Oregon coast. The Committee was impressed with Oregon's natural beauty and considers the State's significant efforts to protect it, an example for the Nation.

The Committee has set up a number of subcommittees, each designed to review specific environmental problem areas in depth and to prepare reports and recommendations for consideration by the full Committee. Subcommittees meet independently of the full Committee and as a consequence, the Committee has been able to make, in addition to this report, recommendations to the Administration throughout the year. The five subcommittees are: Pollution Abatement; Land Use Planning and Population Distribution; Environmental Education, Ethics, and Ecology; Energy; and Recreation and Natural Beauty.

Some say we can't afford it. I think, though, that the expansion of our civilization is now so rapid that the alternative is disaster. Moreover, now when our environment, in general, is resuscitable, it will cost us less than it will later on when it is even more impaired and we have to resort to crash programs. Indeed, if we don't save our environment now, nothing we have accomplished in human endeavor can be long sustained.

Over 20,000 copies of the Committee's April 1971 REPORT have been distributed across the country. Copies of the REPORT, now in its third printing, are available from the Superintendent of Documents, Government Printing Office (GPO), Washington, D.C. 20402, at a cost of 65 cents each.

The Committee's guide, COMMUNTY ACTION FOR ENVIRONMENTAL QUALITY, was aimed at stimulating citizen activity at the local level. It has done so and on a broad scale. Since its publication in April 1970, over 120,000 copies have been distributed to the public. Copies are available through the Government Printing Office at a cost of 60 cents each. A discount of 25 percent is allowed on orders of 100 or more, bringing the price down to 45 cents per guide.

Single copies of the following Committee publications are also available from the Committee office: *REPORT TO THE PRESIDENT AND TO THE PRESIDENT'S COUNCIL ON ENVIRONMENTAL QUALITY* (August 1969); and a special report entitled *A NEW APPROACH TO THE DISPOSAL OF LIQUID WASTE* (1970). Copies of *THE ELECTRIC UTILITY INDUSTRY AND THE ENVIRONMENT* (1968) may be purchased at a cost of $2 each.

Three additional Committee publications are currently in preparation. The first will consist of a series of case histories of effective citizen action, each being written by those deeply involved in the action. The scope of the articles will encompass many environmental concerns, including pollution abatement efforts, projects to facilitate comprehensive land use planning and wise use of natural resources, and programs of environmental education.

The second publication, *NEW DIRECTIONS IN ENVIRONMENTAL QUALITY,* explores fresh approaches to various environmental problems. The articles for inclusion in this publication are being written by consultants and others with particular expertise in certain environmental areas. Among the several topics examined will be: population density and the quality of urban living; arts and the environment; environmental ethics; and recreation and leisure time.

The third is a manual on *MAN AND HIS URBAN ENVIRONMENT,* which was mentioned earlier in this report.

Miss Karen Buxbaum served on the Committee staff as a summer intern in 1971. In September, Miss G. Merrill Ware was appointed to the staff as Research Assistant. The staff has also been augmented by Miss Jéan Berke, who generously served as a volunteer throughout 1971. In addition, the Committee has retained advisors and consultants to assist the staff with special projects and studies.

Three-quarters of the people will live in these areas by the turn of the century. They will have the greatest need for outdoor recreation, and their need will be the most difficult to satisfy as urban centers have the fewest facilities (per capita) and the sharpest competition for land use.

"Wilderness is an anchor to windward. Knowing it is there, we can also know that we are still a rich Nation, tending to our resources as we should—not a people in despair searching every last nook and cranny of our land for a board of lumber, a barrel of oil, or a tank of water."

Senator Clinton P. Anderson

PHOTOGRAPHIC CREDITS

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For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.
Price: $1.25 each. For 100 or more copies, the price is 94 cents each, which is a 25% discount.
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